HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL

HA3 CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KD-34XBR2	*RM-Y185*	*US*	*SCC-S57A-A*

ORIGINAL MANUAL ISSUE DATE: 6/15/2001

ALL REVISIONS AND UPDATES TO THE ORIGINAL MANUAL ARE APPENDED TO THE END OF THE PDF FILE.

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6/2001	No revisions or updates are applicable at this time.	
10/2001	Re-Issue as 9-965-916-02	
8/2002	Supplement - 1	B Board, Q-Box Assembly P/N Correction; IC001 P/N Correction

TRINITRON® COLOR TELEVISION

SONY®

9-965-916-03

Self Diagnosis Supported model

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KD-34XBR2

RM-Y185

TRINITRON® COLOR TELEVISION

SONY®

9-965-916-03

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SPECIFICATIONS

	KD-34XBR2
Power Requirements	120V, 60Hz
Number of Inputs/Outputs	
Video [1]	4
S Video [2]	4
Y, PB, PR [3]	2
Audio [4]	6
Audio Out [5]	1
Monitor Out	1
Control-S (in/out)	1
SELECT OUT [6]	1 Audio/1 Video
Digitial Audio Optical Output Dolby Digital/PCM [7]	1
i.LINK S200 [8]	2
Speaker Output (W)	7.5W x 4
Power Consumption (W)	
In Use (Max)	330W
In Standby	2.5W
In iLINK Standby	34W
Dimensions (W x H x D)	
mm	994 x 622 x 591.3 mm
in	39 3/16 x 24 1/2 x 23 5/16 in
Mass	
kg	93 kg
lbs	206 lbs.

1) 1 Vp-p 75 ohms unbalanced, sync negative
2) Y: 1 Vp-p 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms
3) Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative;
PB: 0.7 Vp-p, 75 ohms
PR: 0.7 Vp-p, 75 ohms
4) 500 mVrms (100% modulation), Impedance: 47 kilohms
5) More than 408 mVrms at the maximum volume setting (variable)
More than 408 mVrms (fix); Impedance (output): 2 kilohms
6) 1 Vp-p, 75 ohms unbalanced, sync negative.
More than 408 mVrms (100% modulation)
Impedence (output): 2 kilohms
7) Optical rectangular (1)

Television system
NTSC, American TV standard, ATSC

Channel coverage
DTV: 1-99/ VHF: 2-13/ UHF: 14-69/ CATV: 1-125

Picture tube
FD Trinitron® tube

Visible screen size
34-inch picture measured diagonally

Actual screen size
36-inch measured diagonally

Antenna
75 ohm external terminal for VHF/UHF

Supplied Accessories
Remote Commander RM-Y185
Two Size AA (R6) Batteries

Optional Accessories
A/V Cable: VMC-810/820/830HG
Audio Cable: RKC-515HG
i.LINK Cable: VMC-IL4415 (4-pin to 4-pin, 1.5 meters)
VMC-IL4435 (4-pin to 4-pin, 3.5 meters)
Component Video Cable: VMC-10/30 HG
TV Stand: SU-34HD2

Design and specifications are subject to change without notice.

XBR
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WARNINGS AND CAUTIONS

CAUTION

Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the AC power line.

⚠ SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ⚠ mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

ATTENTION!!

Apres avoir deconnecte le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au chassis metallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'eviter tout risque d'electrocution provenant d'un châssis sous tension, un transformateur d'isolement doit etre utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

⚠ ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifies par une trame et par une marque ⚠ sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants Sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par Sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.

2. A battery-operated AC milliampmeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

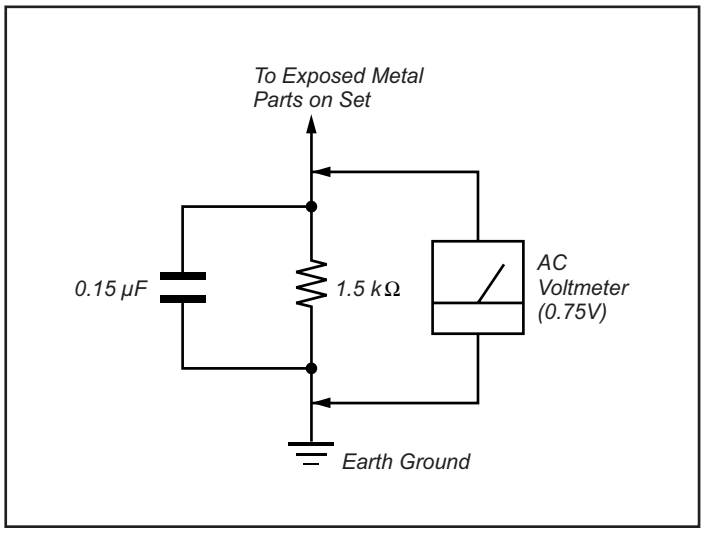


Figure A. Using an AC voltmeter to check AC leakage.

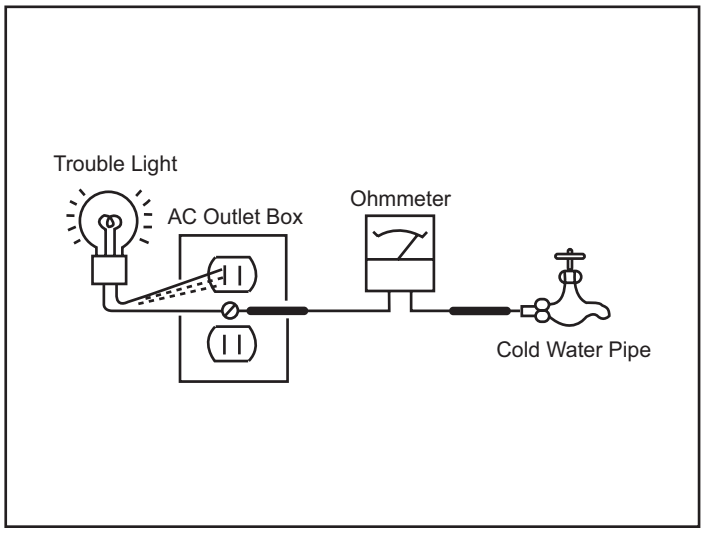


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION

Self Diagnosis Supported model

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/i.LINK STANDBY LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/i.LINK STANDBY LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

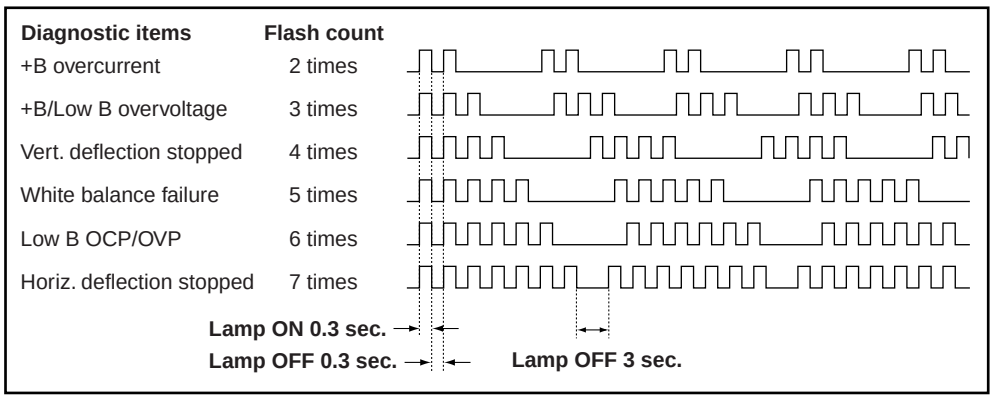
When an error occurs, the STANDBY/i.LINK STANDBY LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

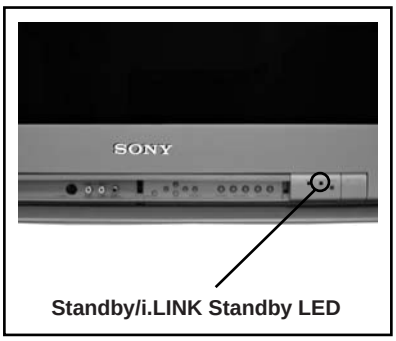
Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays a "0".

Diagnostic Item	No. of times STANDBY/ i.LINK STANDBY lamp flashes	Display Result	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light		• Power cord is not plugged in. • Fuse is burned out (F6701).	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
+B overcurrent (OCP) (see Note 1)	2 times	2:0 or 2:1	• H.OUT (Q5030) is shorted (D Board). • +B PWM (Q5003) is shorted (D Board). • IC9001, IC9002, IC9003 is shorted (C Board).	• Power does not come on. • Load on power line is shorted.
Low +B overvoltage (OVP)	3 times	3:0 or 3:1	• IC6505 is faulty (D Board). +B overvoltage.	• Has entered standby mode.
Vertical Deflection Stopped	4 times	4:0 or 4:1	• ± 15V is not supplied (D Board). • IC5004 is faulty (D Board).	• Has entered standby state after Horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
White Balance Failure (Not balanced)	5 times	5:0 or 5:1	• Video OUT (IC9001-IC9003) is faulty (C Board). • CRT drive (IC3101) is faulty (A Board). • G2 is improperly adjusted (See Note 2).	• No raster is generated. • CRT cathode current detection reference pulse output is small.
LOW +B OCP/OVP (overcurrent/overvoltage) (See Note 3)	6 times	6:0 or 6:1	• +5 line is overloaded (A, B Boards). • +5 line is shorted (A, B Boards).	• No picture.
Horizontal Deflection Stopped	7 times	7:0 or 7:1		• No picture.

Note 1: If a +B overcurrent is detected, stoppage of the Vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on screen.
Note 2: Refer to Screen (G2) Adjustment in Section 2-5. of this manual.
Note 3: If STANDBY/i.LINK STANDBY LED flashes six (6) times, unplug the unit and wait 10 seconds before performing the adjustment

Display of STANDBY/i.LINK Standby LED Flash Count





* One flash count is not used for self-diagnostic.

Stopping the STANDBY/i.LINK STANDBY LED Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/i.LINK STANDBY LAMP from flashing.

Self-Diagnostic Screen Display

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:

DISPLAY ➡ Channel 5 ➡ Sound volume - ➡ Power ON.

SELF DIAGNOSIS	
2: +B OCP	N/A
3: +B OVP	N/A
4: VSTOP	0
5: AKB	1
6: LOWB	0
7: H-STOP	0

Numeral “0” means that no fault was detected.

Numeral “1” means a fault was detected one time only.

Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”. Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display

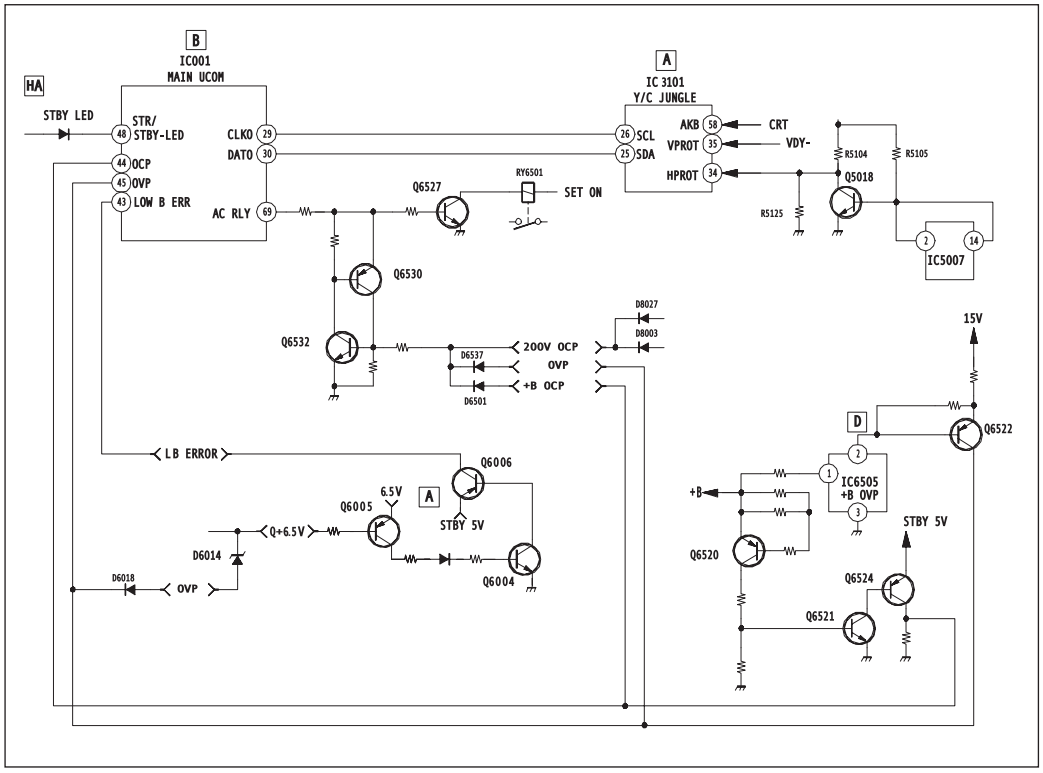
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel 8 ➡ ENTER

Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP)

Occurs when an overcurrent (more than 6A) on the +B (135V) line is detected by R6598/R6591. It will cause Q6520 to turn on and force the AC relay to turn off through Q6532 and Q6530.

+B overvoltage (OVP)

Occurs when 1) overvoltage (more than +140V) on the +B (135V) line is detected by IC6505, or 2) an overvoltage (more than 7.5 V) on the unreg 7V line is detected by D6014. The AC relay will turn off through Q6532 and Q6530.

Vertical Deflection Stopped

Occurs when an absence of the Vertical deflection pulse is detected by IC201. Power supply will shut down when waveform interval exceeds 2 seconds.

White Balance Failure

If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC201. TV will stay on, but there will be no picture.

*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

Low B OCP/OVP

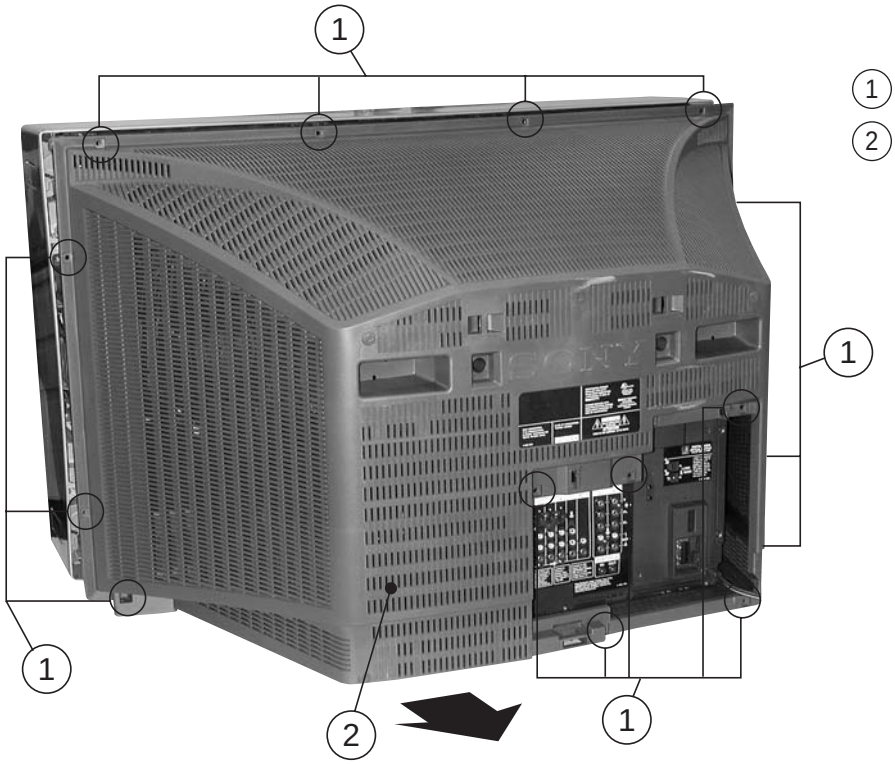
Occurs when set 5V is out.

Horizontal Deflection Stopped

Occurs when either: 1) a +B overcurrent is detected (IC5007), or 2) overheating is detected (Thermistor TH5002).

SECTION 1: DISASSEMBLY

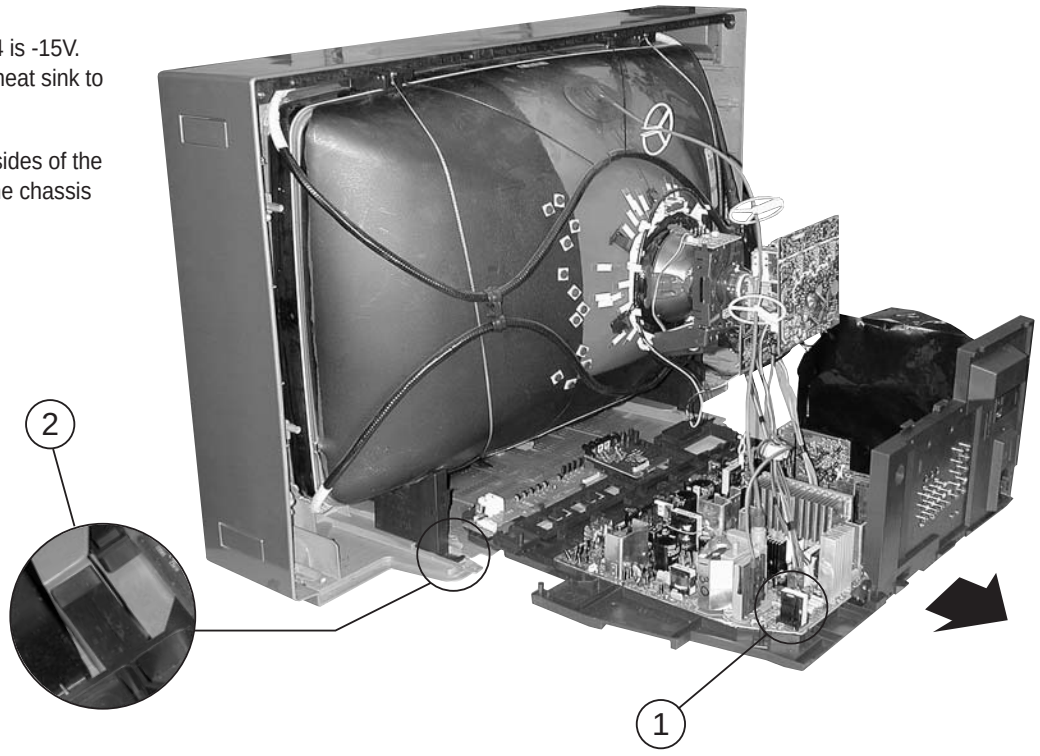
1-1. REAR COVER REMOVAL



1. Remove screws (15) from locations as marked.
2. Gently slide the rear cover back and up to remove.

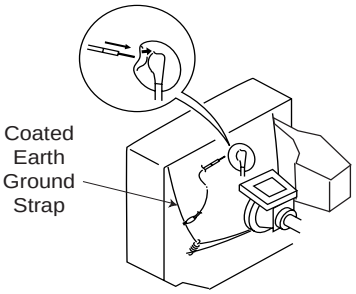
1-2. CHASSIS ASSEMBLY REMOVAL

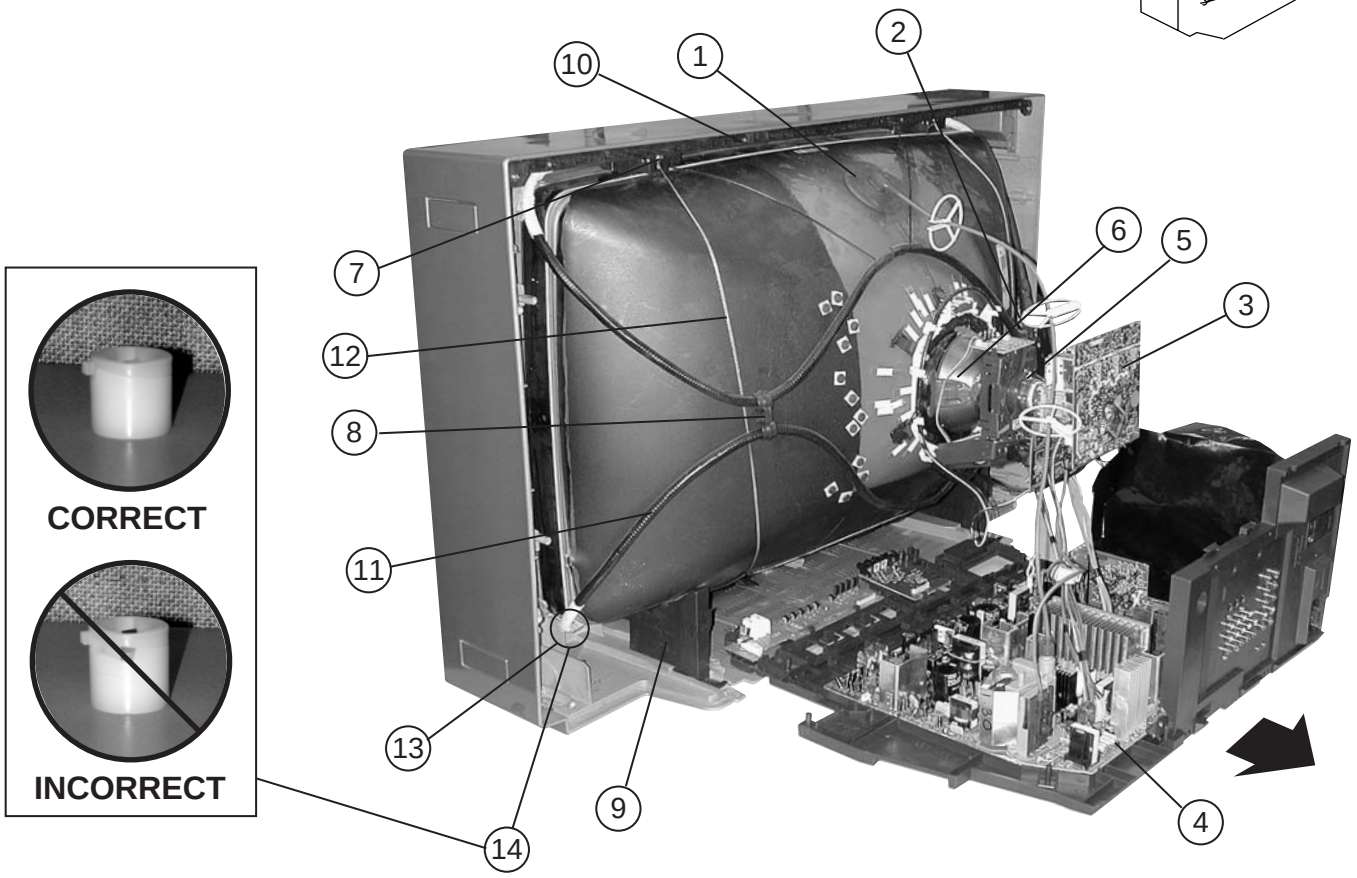
1. **CAUTION!** - Heat sink on IC5004 is -15V. Care must be taken not to allow heat sink to touch any other components.
2. Lift lever up on the right and left sides of the chassis bracket and gently pull the chassis assembly away from the beznet.



1-3. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP
High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.





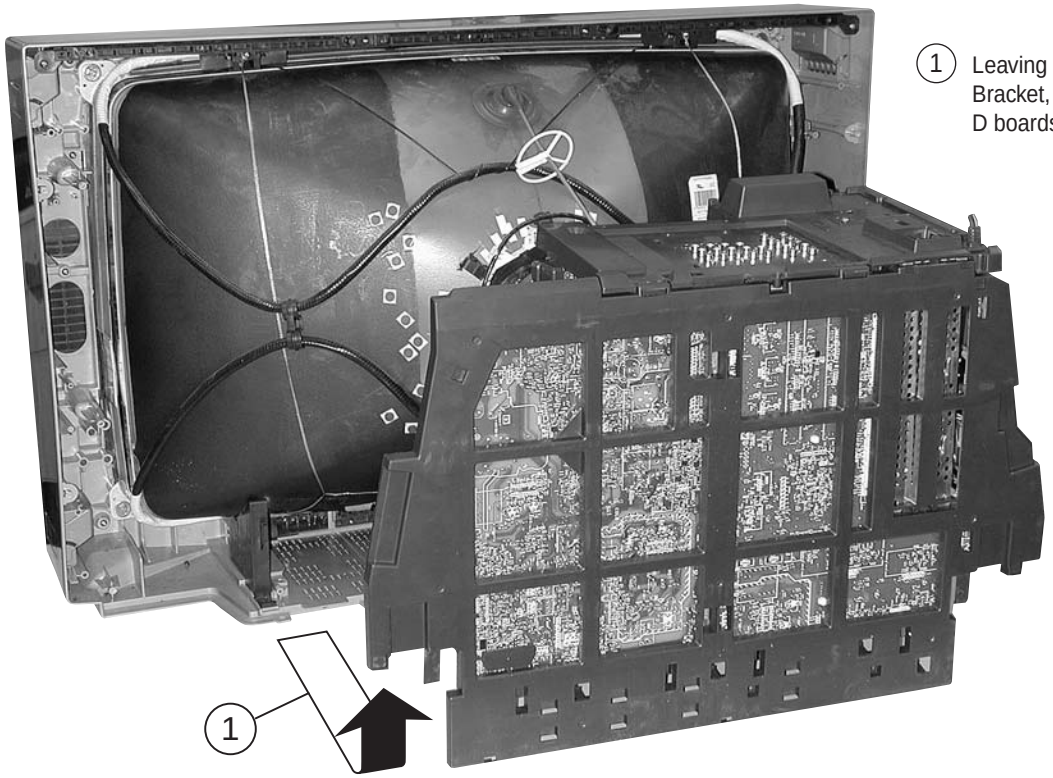
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
6. Loosen the deflection yoke fixing screw and remove.
7. Remove (2) screws from the degaussing coil holder assemblies to release the CRT grounding strap.
8. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
9. Remove the CRT supports (on both left and right sides) by lifting up on the clip and gently sliding it up and out.
10. Remove (4) screws holding in the Spacer -36 at the top of the cabinet and remove, making sure to remove the degaussing coil holders with it.
11. Remove the degaussing coil.
12. Remove the CRT grounding strap and tension springs.
13. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck assembly.]

NOTE: The CRT screws used with the HA3 are specific to this unit. If replacement is necessary, these exact screws must be used. (p/n: 4-080-811-01; Desc: SCREW, TAPPING (7) + CROWN WASHER)

14. IMPORTANT: When replacing the CRT, care must be taken in replacing the CRT spacers into the cabinet. The spacer must be completely reset prior to re-inserting the CRT screws (see figure above for proper setting of CRT spacer).

NOTE: When removing the screws from the CRT, damage occurs to the CRT Spacer. It is necessary to replace these components after removal. (p/n: 4-080-267-01; Desc: Spacer, CRT)

1-4. SERVICE POSITION



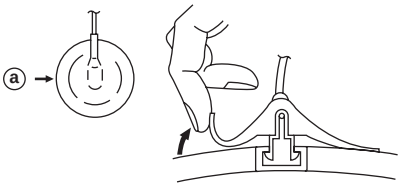
(1) Leaving the boards intact in the Main Bracket, pull up and rotate both the A and D boards in order to service the unit.

ANODE CAP REMOVAL PROCEDURE

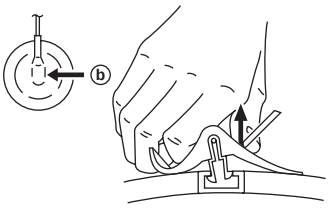
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between the anode and CRT coated earth ground strap.

NOTE: After removing the anode cap, short circuit to either the metal chassis, CRT shield, or carbon painted on the CRT.

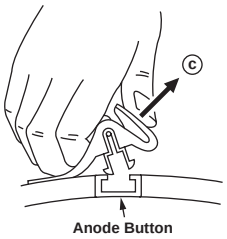
REMOVAL PROCEDURES



Turn up one side of the rubber cap in the direction indicated by arrow ⓐ .



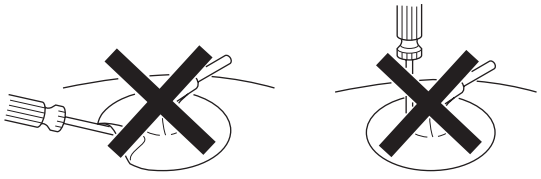
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ.



When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow Ⓒ.

HOW TO HANDLE AN ANODE CAP

1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminalis built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



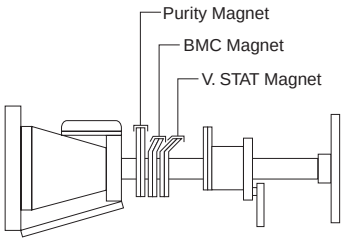
SECTION 2: MECHANICAL PRE-ADJUSTMENTS

IMPORTANT:

Make sure that the following items are checked and adjusted whenever the CRT or Deflection Yoke have been replaced.

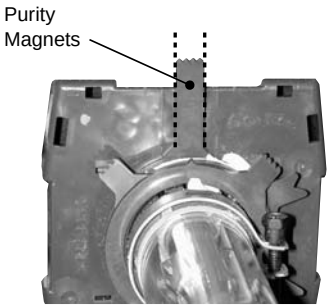
2-1. RING MAGNET ADJUSTMENTS

Location of ring magnets for adjustment:



PURITY MAGNETS

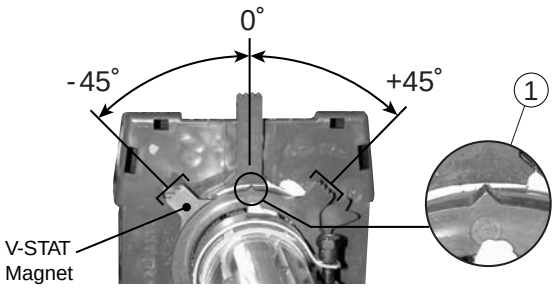
Adjust the purity magnets so that the adjusting tabs are straight up.



V-STAT MAGNETS

Adjust the V-Stat Magnets so that the adjustment tabs are approximately ± 45° from 0° (a total of 90° between each tab)

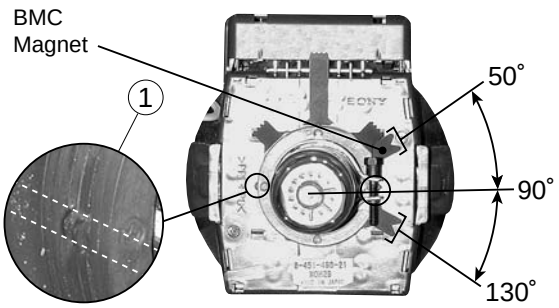
NOTE: The points (1) on the edges of each tab should be evenly aligned (see the figure below).



BMC MAGNETS

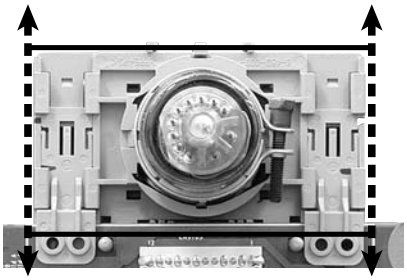
Adjust the BMC Magnets so that the adjustment tabs are approximately ± 40° from 90°.

NOTE: The rounded points (1) on the edges of each tab should be evenly aligned (see the figure next column).



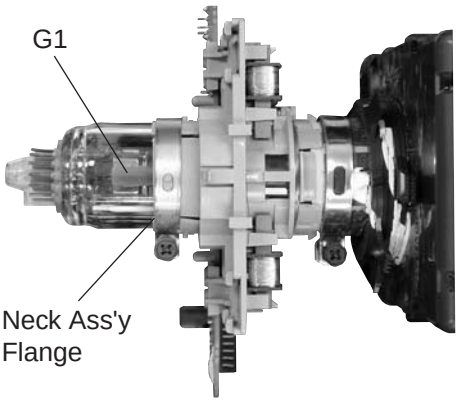
2-2. NECK ASSEMBLY POSITIONING

1. The left and right sides of the neck assembly must be straight up and down.

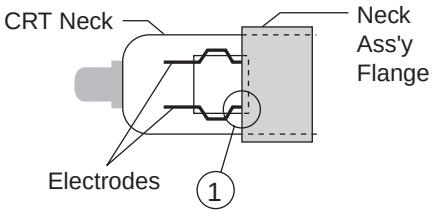


2. Make sure that the rear edge of the plastic flange on the neck assembly is positioned directly above the edge of the CRT pin electrodes that are soldered to G1 within the neck of the CRT (see (1) below)

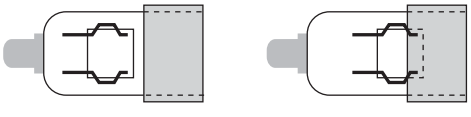
CRT/Neck Assembly Top View



Proper Alignment (Top View of CRT Neck)



Improper Alignment



Flange Too Far Foreward

Flange Too Far Rearward

SECTION 3: BEAM LANDING AND RASTER CENTER ADJUSTMENTS

3-1. BEAM LANDING ADJUSTMENT

REQUIRED EQUIPMENT:

NTSC Video Pattern Generator (into VIDEO-1 input)

Landing Magnets (for correcting mislanding in the corners of the set)

SET-UP CONDITION:

DISPLAY MODE: FULL

VIDEO SOURCE: VIDEO-1

PICTURE MODE: STANDARD (select the STANDARD mode from the menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings.)

TILT CORRECTION: Set to 0 (Zero)

VERTICAL CORRECTION: Set to 0 (Zero)

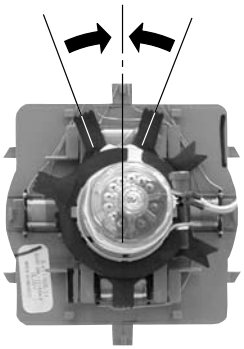
PICTURE TUBE POSITION: Face in an East or West Direction**

****Note: Typically, adjustments will be made to this unit while it is in its normal position in a customer's home. Any directional references made in this manual should only be followed when the unit is being serviced elsewhere (e.g. in a shop).**

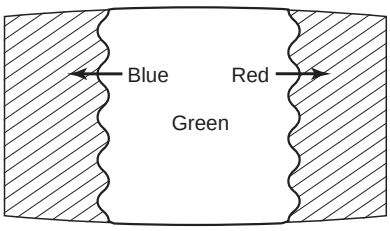
PROCEDURE:

1. Turn on power to the set and make sure that the degauss circuit is in working order (a brief hum will sound from the degauss coils).
2. Loosen the deflection yoke mounting screw, and set the purity magnet adjustment tabs to the center as shown below:

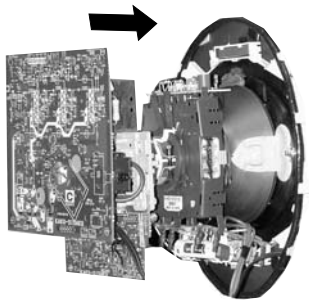
Purity Magnet Adjustment Tabs



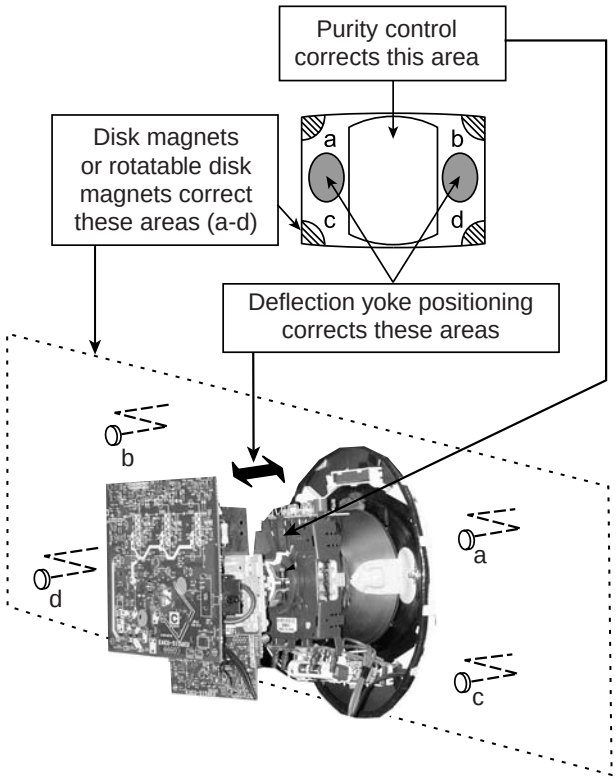
3. Input a green raster from the pattern generator.
4. Move the deflection yoke backwards, and adjust the purity ring magnets so that the center of the screen is green, and the red and blue areas on either side of the screen are approximately the same size as shown in the figure below:



5. Move the deflection yoke forward until the entire screen becomes green.



6. Confirm the purity for both the red and blue rasters.
7. Tighten the deflection yoke mounting screw just enough to keep the yoke from moving forward or backward, but not too tight as to keep it from rotating.
8. Input a crosshatch pattern from the generator. Rotate the yoke so that the crosshatch's top and bottom lines are as even with the bezel as possible. Secure the deflection yoke by fully tightening the mounting screw.
9. Use a DY Spacer (p/n: 4-053-005-01) between the deflection yoke and the CRT in order to maintain the yoke position in each axis.
10. Add disk magnets (p/n: 1-452-032-00) to the back of the CRT as necessary to correct mislanding in the corners of the screen.



This completes the beam landing adjustment.

3-2. RASTER CENTER ADJUSTMENT

Perform this adjustment when any of the following have been replaced in the unit, CRT, Deflection Yoke or D Board.

EQUIPMENT:

NTSC generator with monoscope pattern or white raster into Video-1 input.

SET-UP CONDITION:

Display Mode: FULL (NTSC)

Picture Mode: STANDARD (select the STANDARD mode from the menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings.)

Tilt Correction: Set to Zero (0)

Vertical Correction: Set to Zero (0)

PROCEDURE:

1. Enter the service mode.
2. Select the following adjustment items and set their data as follows.

   NOTE: DO NOT WRITE THE DATA TO MEMORY! To be safe, write down the existing data values before changing them.

Device Name	Adj. Item #	Name	Data
2150P-2	6	AGNG	2
2150D-3	0	HBLK	0
2150D-2	2	HSIZ	20
2150D-2	1	HPOS	48
2150D-2	16	LANG	31
2150D-2	18	LBOW	31
2150D-2	0	HCEN	33

3. Center the raster between the left and right sides of the bezel. The sides of the shrunken raster might not be straight at this point, so use the sides of the raster at the half-way point between the top and bottom to judge when the raster is centered.

Device Name	Adj. Item #	Name	Data
2150D-2	0	HCEN	*

* Adjust so that the raster is centered

4. Make a note of the data that was set in step 3.
5. Return all of the items adjusted in step 2 to their previous settings, as follows:
   1) Press the “0” button (“READ” appears in green letters at the top right corner of the screen).
   2) Press the “ENTER” button (“READ” changes from green to red, and “READ” will change to “SERVICE”).
6. Re-enter the horizontal centering data from step 3, then write it to memory as follows.

Device Name	Adj. Item #	Name	Data
2150D-2	0	HCEN	*

* Use the HCEN data from step 3, and then do the following:

1) Press the “MUTE” button (“WRITE” appears in green letters at the top right corner of the screen).
2) Press the “ENTER” button (“WRITE” changes from green to red, and “WRITE” will change to “SERVICE”).

Note: The raster horizontal centering adjustment data for the FULL mode is automatically used for the other display modes as well (NORMAL, ZOOM, WIDE ZOOM, and TWIN mode). Do not change the raster horizontal centering adjustment data in any of these display modes.

This completes the raster center adjustment.

SECTION 4. PICTURE SIZE AND GEOMETRY ADJUSTMENTS

Perform these adjustments when any of the following are replaced: CRT, deflection yoke, D-board, and whenever touch-ups are required.

REQUIRED EQUIPMENT:
NTSC generator with monoscope pattern and cross-hatch pattern. (In lieu of the monoscope pattern, the cross-hatch pattern will suffice. However, to correctly size the picture you must be able to calculate what percentage of the generator's full pattern is being displayed due to the over-scanning of the CRT.)

NOTE: Throughout these adjustment procedures you will be instructed to "Write the data to memory". To do this, follow this procedure:

1. **Press the "MUTE" button ("WRITE" appears in green letters at the top right corner of the screen).**
2. **Press the "ENTER" button ("WRITE" changes from green to red, then "WRITE" changes to "SERVICE").**

4-1. FULL MODE ADJUSTMENT

SET-UP CONDITION:
Display Mode: FULL (NTSC)

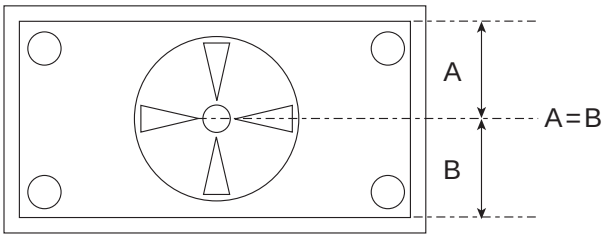
Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

TILT CORRECTION: set to zero (from the user menu).

VERTICAL CORRECTION: set to zero (from the user menu).

PROCEDURE:
1. Enter the service mode.
2. Display the monoscope or cross-hatch pattern.
3. Set the data for VPOS to 27, then adjust SCRL so that the pattern is centered vertically on the screen.

Monoscope Pattern



Device Name	Adj. Item #	Name	Data
2150D-1	0	VPOS	27
2150D-1	12	SCRL	*

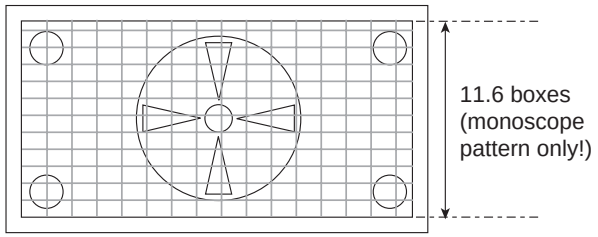
* Adjust as necessary to vertically center the pattern. If the monoscope pattern is not available, use the cross-hatch pattern's center dot as the reference point.

4. Write the data to memory.
5. Adjust the vertical size.

Device Name	Adj. Item #	Name	Data
2150D-1	1	VSIZ	*

* Adjust to meet the following spec.:
Monoscope pattern: 11.6 boxes.
Cross-hatch pattern: 90% of the full pattern height.

Monoscope Pattern



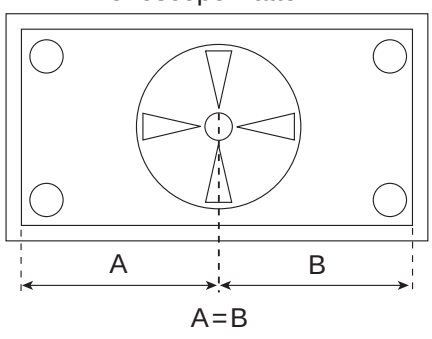
6. Write the data to memory.
7. Adjust the pattern so that it is centered on the screen horizontally.

Do not change the HCEN data to center the pattern! Use HPOS to center the pattern. HCEN centers the raster; HPOS centers the picture on the raster.

Device Name	Adj. Item #	Name	Data
2150D-2	1	HPOS	*

* Adjust as necessary to horizontally center the pattern. If the monoscope pattern is not available, use the cross-hatch pattern's center dot as the reference point.

Monoscope Pattern



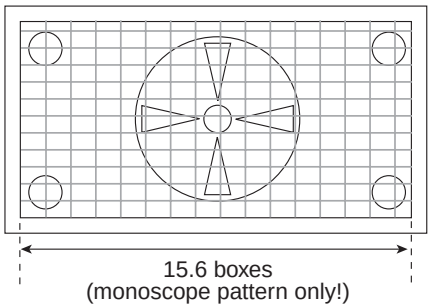
8. Write the data to memory.

9. Adjust the horizontal size.

Device Name	Adj. Item #	Name	Data
2150D-2	2	HSIZ	*

* Adjust to meet the following spec.:
Monoscope pattern: 15.6 boxes.
Cross-hatch pattern: 92% of the full pattern width.

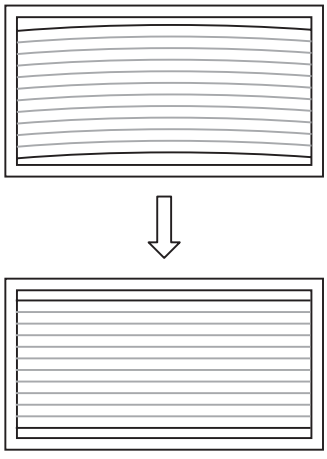
Monoscope Pattern



10. Write the data to memory.
11. Display a cross-hatch pattern (do not use the monoscope pattern).
12. Equalize the vertical bow at the top and bottom of the screen.

Device Name	Adj. Item #	Name	Data
2150D-1	5	VCEN	*

* Adjust to make the bowing of the top and bottom lines equal.

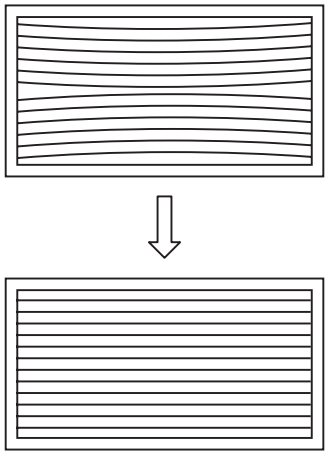


13. Write the data to memory.

14. Adjust the vertical pin cushion.

Device Name	Adj. Item #	Name	Data
2150D-1	6	VPIN	*

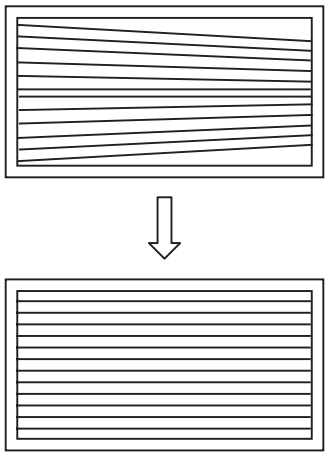
* Adjust as necessary to make the horizontal lines as straight as possible.



15. Write the data to memory.
16. Adjust the picture keystone.

Device Name	Adj. Item #	Name	Data
2150D-1	8	HTPZ	*

* Adjust as necessary to make the horizontal lines as parallel as possible.

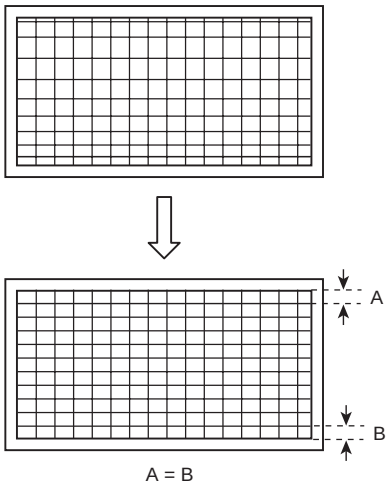


17. Write the data to memory.
18. Display a cross-hatch pattern (do not use the monoscope pattern).

19. Adjust the vertical linearity.

Device Name	Adj. Item #	Name	Data
2150D-1	3	VLIN	*

* Adjust as necessary so that the boxes at the top of the screen are the same height as the boxes at the bottom of the screen.



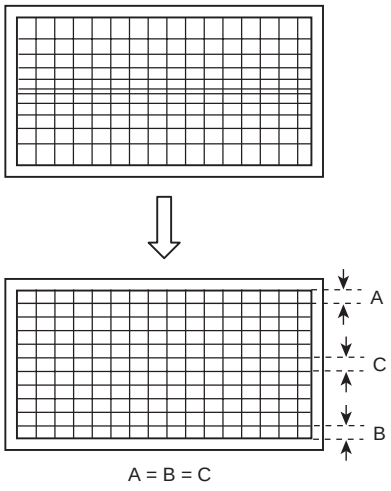
20. Write the data to memory.

21. Display a cross-hatch pattern (do not use the monoscope pattern).

22. Adjust the vertical S-correction.

Device Name	Adj. Item #	Name	Data
2150D-1	4	VSCO	*

* Adjust as necessary so that the boxes at the top and bottom of the screen are the same height as the boxes in the middle of the screen.



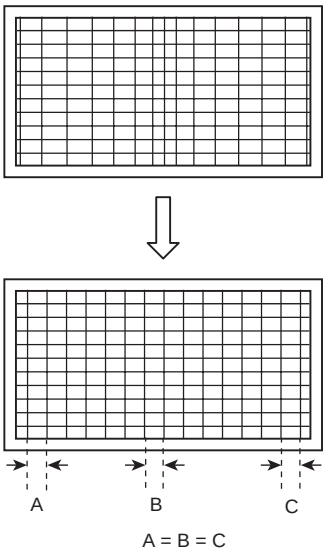
23. Write the data to memory.

24. Display a cross-hatch pattern (do not use the monoscope pattern).

25. Adjust the horizontal linearity.

Device Name	Adj. Item #	Name	Data
2150D-2	3	SLIN	*

* Adjust as necessary so that the boxes at the left and right sides of the screen are the same width as the boxes in the middle of the screen.



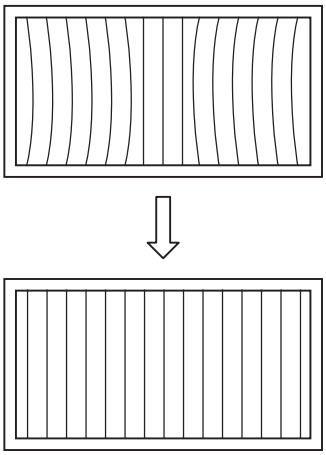
26. Write the data to memory.

27. Display a cross-hatch pattern (do not use the monoscope pattern).

28. Adjust horizontal inner and outer pin cushion.

Device Name	Adj. Item #	Name	Data
2150D-2	4	MPIN	*

* Adjust as necessary to straighten the vertical lines of the cross-hatch pattern. The MPIN adjustment is effective in the outer and inner areas of the screen.



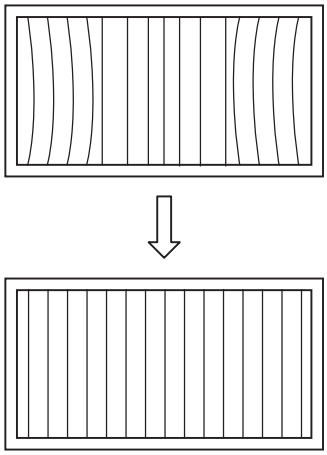
29. Write the data to memory.

30. Display a cross-hatch pattern (do not use the monoscope pattern).

31. Adjust horizontal outer pin cushion.

Device Name	Adj. Item #	Name	Data
2150D-2	5	PIN	*

* Adjust as necessary to straighten the vertical lines of the cross-hatch pattern. The PIN adjustment is more effective in the outer areas of the screen.



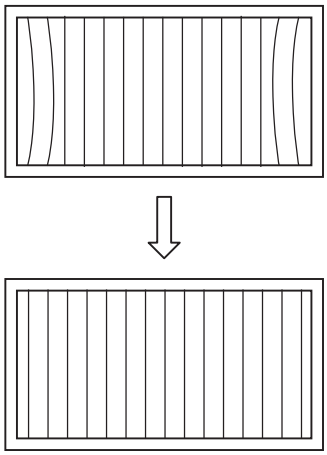
32. Write the data to memory.

33. Display a cross-hatch pattern (do not use the monoscope pattern).

34. Adjust the pincushion in the top and bottom corners of the screen.

Device Name	Adj. Item #	Name	Data
2150D-2	7	UCP	*
2150D-2	8	LCP	*

* Adjust as necessary to straighten the vertical lines of the cross-hatch pattern in the top and bottom corners of the screen.



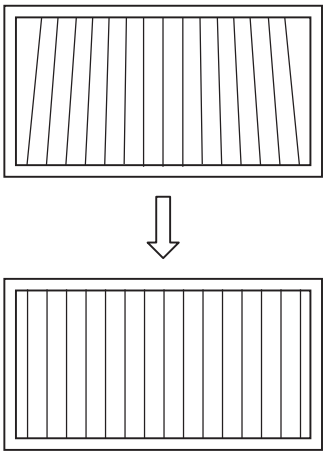
35. Write the data to memory.

36. Display a cross-hatch pattern (do not use the monoscope pattern).

37. Adjust the vertical keystone.

Device Name	Adj. Item #	Name	Data
2150D-2	14	PPHA	*

* Adjust as necessary to remove vertical keystone.



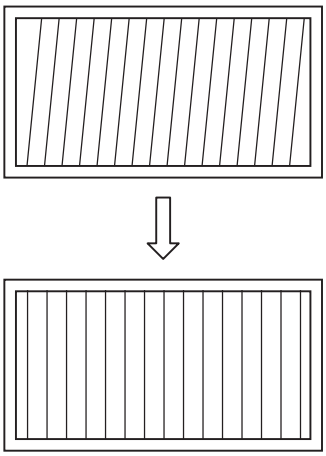
38. Write the data to memory.

39. Display a cross-hatch pattern (do not use the monoscope pattern).

40. Remove any slant from all of the vertical lines.

Device Name	Adj. Item #	Name	Data
2150D-2	15	VANG	*

* Adjust as necessary to make all of the vertical lines straight up and down. The VANG adjustment is effective across the entire screen.



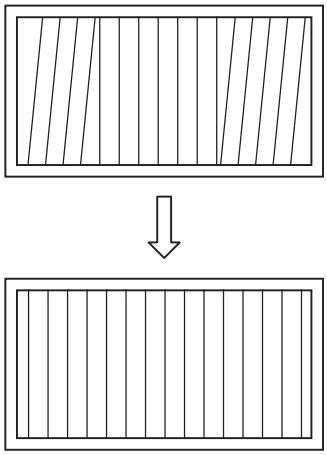
41. Write the data to memory.

42. Display a cross-hatch pattern (do not use the monoscope pattern).

43. Remove any slant from the outer vertical lines.

Device Name	Adj. Item #	Name	Data
2150D-2	16	LANG	*

* Adjust as necessary to make the outer vertical lines straight up and down. The LANG adjustment is most effective in the outer areas of the screen.



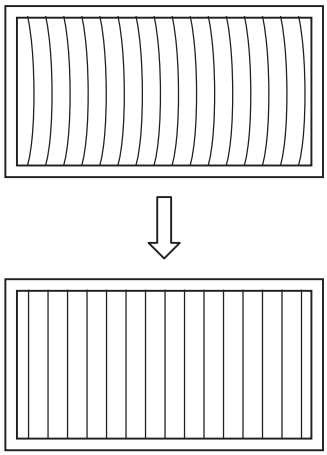
44. Write the data to memory.

45. Display a cross-hatch pattern (do not use the monoscope pattern).

46. Remove any bow from all of the vertical lines.

Device Name	Adj. Item #	Name	Data
2150D-2	17	VBOW	*

* Adjust as necessary to make all of the vertical lines straight up and down. The VBOW adjustment is effective across the entire screen.



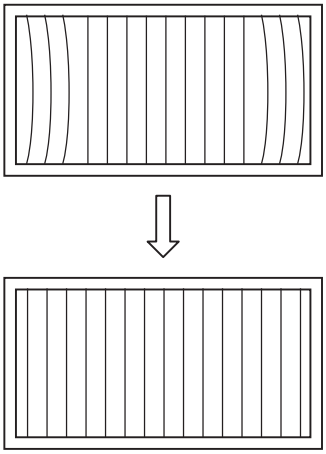
47. Write the data to memory.

48. Display a cross-hatch pattern (do not use the monoscope pattern).

49. Remove any bow from the outer vertical lines.

Device Name	Adj. Item #	Name	Data
2150D-2	18	LBOW	*

* Adjust as necessary to make the outer vertical lines straight up and down. The LBOW adjustment is most effective in the outer areas of the screen.



50. Write the data to memory.

This completes the FULL mode Size and Geometry adjustments.

Note: Many of the adjustments in this section are shared with the other display modes (NORMAL, ZOOM, WIDE ZOOM, and TWIN). When adjusting these modes as described in the following sections, be sure to adjust only those items specifically listed for each mode.

4-2. NORMAL MODE GEOMETRY ADJUSTMENT

SET-UP CONDITION:
Display Mode: NORMAL (4:3 NTSC)

Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

TILT CORRECTION: set to zero (from the user menu).

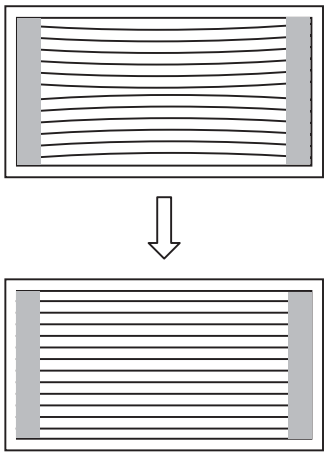
VERTICAL CORRECTION: set to zero (from the user menu).

NOTE: The NORMAL mode shares the adjustments made in the FULL mode. As a rule you should not have to make any adjustments in NORMAL mode except the vertical pin mode which is independent of the FULL mode.

PROCEDURE:
1. Enter the service mode.
2. Display the cross-hatch pattern.
3. Adjust the vertical pincushion.

Device Name	Adj. Item #	Name	Data
2150D-1	6	VPIN	*

* Adjust as necessary to make the horizontal lines as straight as possible.



4. Write the data to memory.

This completes the NORMAL mode geometry adjustment.

4-3. ZOOM MODE GEOMETRY ADJUSTMENT

SET-UP CONDITION:
Display Mode: ZOOM

Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

TILT CORRECTION: set to zero (from the user menu).

VERTICAL CORRECTION: set to zero (from the user menu).

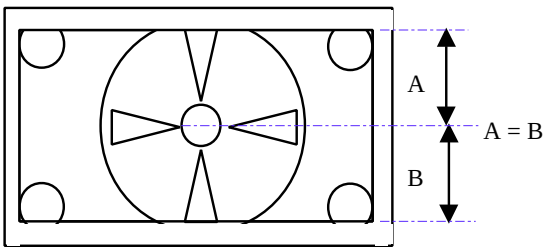
NOTE: The ZOOM mode shares the adjustments made in the FULL mode. As a rule you should not have to make any adjustments in ZOOM mode except vertical size (ASPT) and vertical position (SCRL) which are independent of the FULL mode.

PROCEDURE:
1. Enter the service mode.
2. Display the monoscope or cross-hatch pattern.
3. Adjust the pattern so that it is centered on the screen vertically.

Device Name	Adj. Item #	Name	Data
2150D-1	12	SCRL	*

* Adjust as necessary to vertically center the pattern. If the monoscope pattern is not available, use the cross-hatch pattern's center dot as the reference point.

Monoscope Pattern

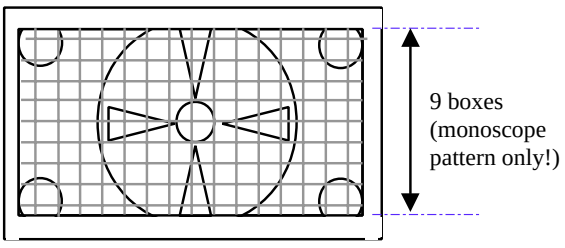


4. Write the data to memory.
5. Display the monoscope or cross-hatch pattern.
6. Adjust the vertical size.

Device Name	Adj. Item #	Name	Data
2150D-1	11	ASPT	*

* Adjust to meet the following spec.:
Monoscope pattern: 9 boxes.
Cross-hatch pattern: 70% of the full pattern height.

Monoscope Pattern



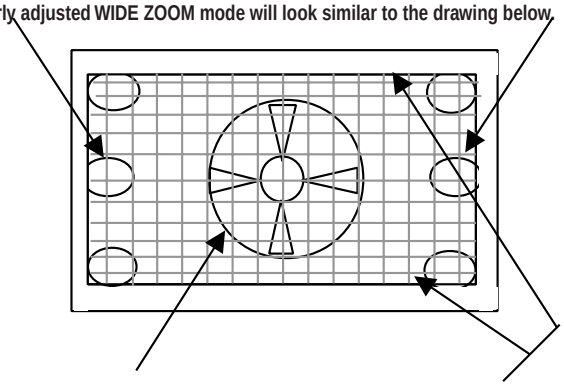
4. Write the data to memory.

This completes the ZOOM mode geometry adjustment.

4-4. WIDE ZOOM MODE GEOMETRY ADJUSTMENT

NOTE: The WIDE ZOOM mode deliberately compresses the picture areas near the top and bottom of the screen, and stretches the picture areas at the sides of the screen. Images in the center area of the screen are neither stretched nor compressed, so they appear natural. The WIDE ZOOM mode allows the viewer to see natural images in the center of the screen where the viewer's attention is usually focused, while at the same time allowing the images to fill the entire screen area.

A properly adjusted WIDE ZOOM mode will look similar to the drawing below.



Center area aspect ratio is preserved.

Top and bottom compressed.

SET-UP CONDITION:
Display Mode: WIDE ZOOM

Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

TILT CORRECTION: set to zero (from the user menu).

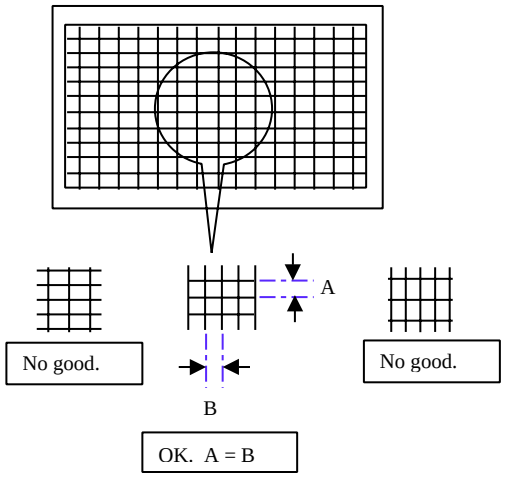
VERTICAL CORRECTION: set to zero (from the user menu).

NOTE: The WIDE ZOOM mode shares a few of the adjustments made in the FULL mode. As a rule you should not have to make any of the shared adjustments in WIDE ZOOM mode. Only the adjustments listed below are necessary.

PROCEDURE:
1. Enter the service mode.
2. Display the monoscope or cross-hatch pattern.
3. Adjust the vertical s-correction and the horizontal linearity so that the boxes in the general center area of the screen have the same height and width.

Device Name	Adj. Item #	Name	Data
2150D-1	4	VSCO	9 -11 *
2150D-2	3	SLIN	9 -11 *

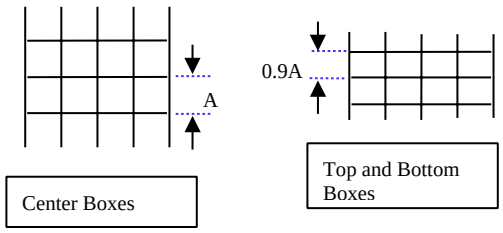
* Adjust so that the top and bottom boxes are the same height. The data must be between 9 and 11!



4. Distort the vertical linearity.

Device Name	Adj. Item #	Name	Data
2150D-1	3	VLIN	*

* Adjust so that the height of the top and bottom boxes are about 90% of the height of the center boxes

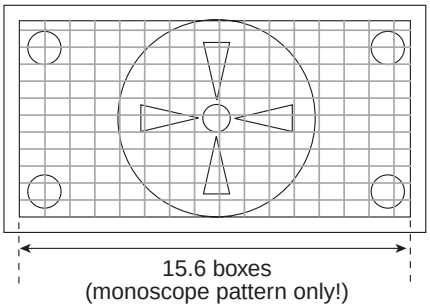


5. Write the data to memory.
6. Adjust the horizontal size.

Device Name	Adj. Item #	Name	Data
2150D-2	2	HSIZ	*

* Adjust to meet the following spec.:
Monoscope pattern: 15.6 boxes.
Cross-hatch pattern: 92% of the full pattern width.

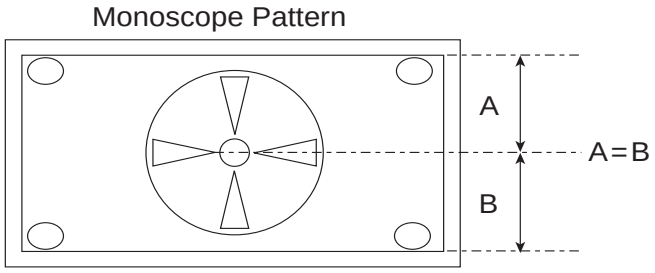
Monoscope Pattern



7. Write the data to memory.
8. Adjust the pattern so that it is centered on the screen vertically.

Device Name	Adj. Item #	Name	Data
2150D-1	12	SCRL	*

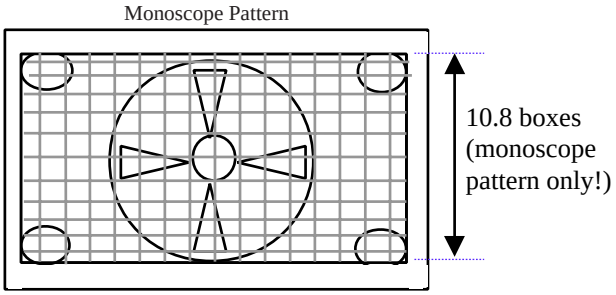
* Adjust as necessary to vertically center the pattern. If the monoscope pattern is not available, use the cross-hatch pattern's center dot as the reference point.



9. Write the data to memory.
10. Adjust the vertical size.

Device Name	Adj. Item #	Name	Data
2150D-1	11	ASPT	*

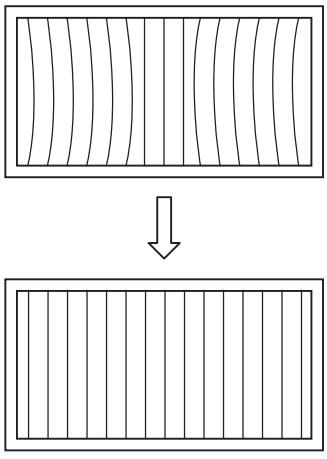
* Adjust to meet the following spec.:
Monoscope pattern: 10.8 boxes.
Cross-hatch pattern: 83% of the full pattern height.



11. Write the data to memory.
12. Display a cross-hatch pattern (do not use the monoscope pattern.
13. Adjust horizontal outer pin cushion.

Device Name	Adj. Item #	Name	Data
2150D-2	5	PIN	*

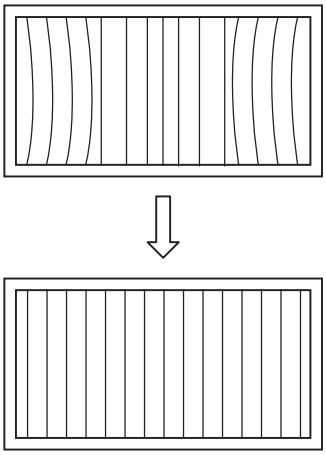
* Adjust as necessary to straighten the vertical lines of the cross-hatch pattern. The PIN adjustment is more effective in the outer areas of the screen.



14. Write the data to memory.
15. Adjust the pincushion in the top and bottom corners of the screen.

Device Name	Adj. Item #	Name	Data
2150D-2	7	UCP	*
2150D-2	8	LCP	*

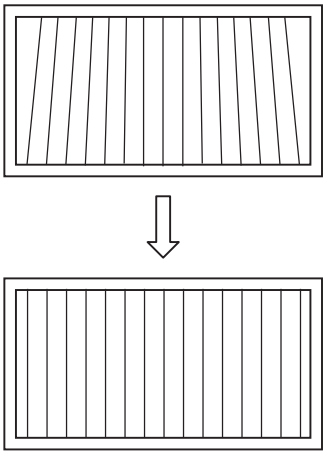
* Adjust as necessary to straighten the vertical lines of the cross-hatch pattern in the top and bottom corners of the screen



16. Write the data to memory.
17. Adjust the vertical keystone.

Device Name	Adj. Item #	Name	Data
2150D-2	14	PPHA	*

* Adjust as necessary to remove vertical keystone.



18. Write the data to memory.

This completes the WIDE ZOOM mode geometry adjustment.

4-5. TWIN MODE GEOMETRY CONFIRMATION

The TWIN mode uses the FULL mode adjustments. You should check the geometry in TWIN mode, but it will normally be OK. Minor flaws are allowed. Anything beyond minor flaws indicates problems that will be evident in the FULL mode also. You should correct the problems in the FULL mode only, not the TWIN mode.

This completes the TWIN mode geometry confirmation.

4-6. HIGH DEFINITION 1080I MODE GEOMETRY ADJUSTMENT

The high definition 1080i mode ("HD1080i") shares many of the FULL mode adjustments. As a rule you should not have to make any adjustments in HD1080i mode except vertical size (ASPT), vertical position (SCRL), and horizontal positioning (HPOS) which are independent of the FULL mode.

SET-UP CONDITION:
Display Mode: HD1080i FULL (this mode is automatically selected when a 1080i video signal is displayed).

Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

TILT CORRECTION: set to zero (from the user menu).

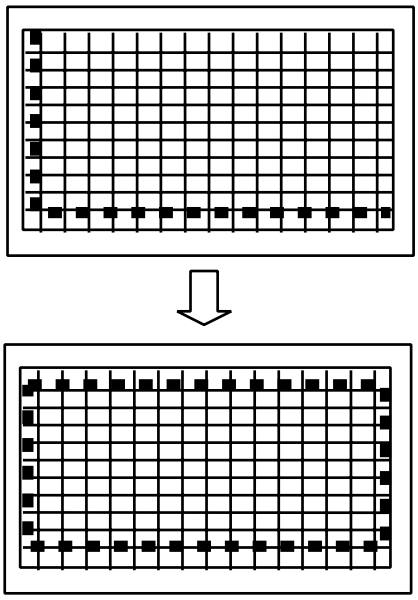
VERTICAL CORRECTION: set to zero (from the user menu).

PROCEDURE:
1. With the set turned off, turn it on and tune a DTV channel (either standard definition or high definition is OK), then turn the set off again.
2. Enter the service mode.
3. Display the 1080i cross-hatch pattern as follows:
   a. Select adjustment category "DTV".
   b. Select adjustment item # 1 "PATN".
   c. Select the 1080i cross-hatch pattern by changing the PATN data from "0" to "1". The cross-hatch will appear after a second or two.
4. Adjust the pattern so that it is centered on the screen horizontally and vertically. Use the dots that surround the pattern to determine when it is centered.

The HPOS adjustment affects the other display modes; adjust it to find the best balance among all display mode.

Device Name	Adj. Item #	Name	Data
2150D-1	12	SCRL	*
2150D-2	1	HPOS	*

* Adjust as necessary to horizontally and vertically center the pattern.

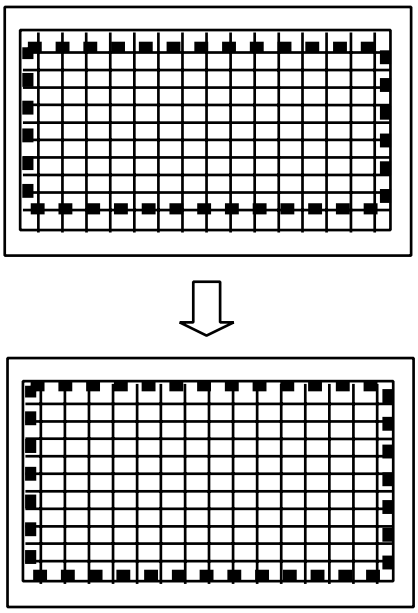


5. Write the data to memory.

6. Adjust the vertical size.

Device Name	Adj. Item #	Name	Data
2150D-1	11	ASPT	*

* Adjust as necessary so that the horizontal dots along the top and bottom of the pattern are close to the bezel.



7. Write the data to memory.

This completes the HD1080i mode geometry adjustment.

SECTION 5. STATIC CONVERGENCE ADJUSTMENTS

Perform these adjustments when any of the following are replaced: CRT, deflection yoke, D-board, and whenever touch-ups are required.

REQUIRED EQUIPMENT: NTSC generator with dot pattern and cross-hatch pattern.

SET-UP CONDITION:
Display Mode: FULL (NTSC)

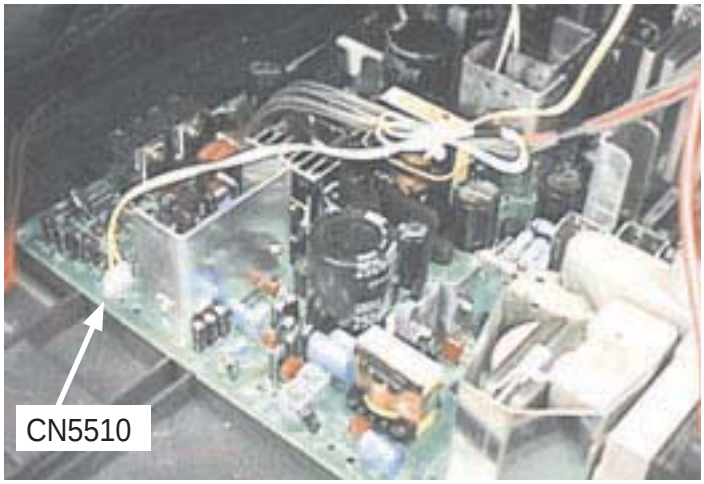
Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

BRIGHTNESS: 50% PICTURE: 50% TILT CORRECTION: set to zero (from the user menu).

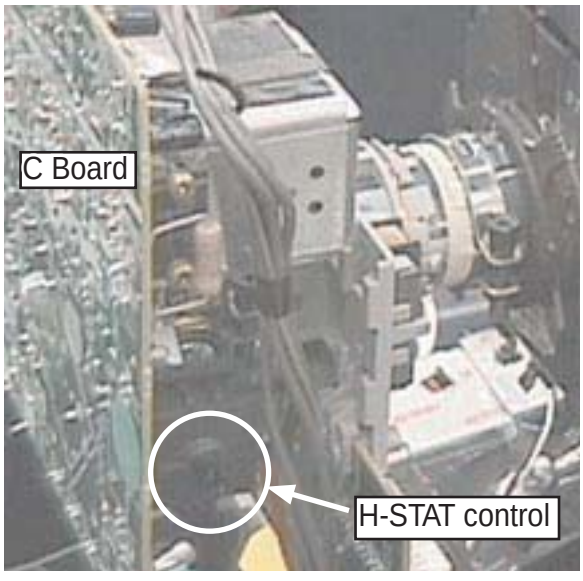
VERTICAL CORRECTION: set to zero (from the user menu).

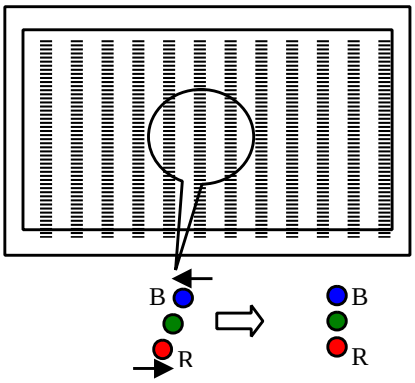
PROCEDURE:

1. Make sure the TV power is off, then disable the dynamic convergence circuit by unplugging CN5510 from the D-board.
2. Turn the set on and display the dot pattern.

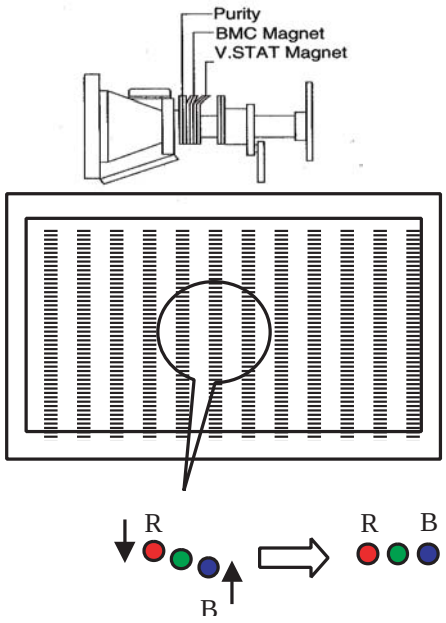


3. Adjust the H-STAT control on the C-board (RV9001) to horizontally converge the red, green, and blue dots in the center of the screen.



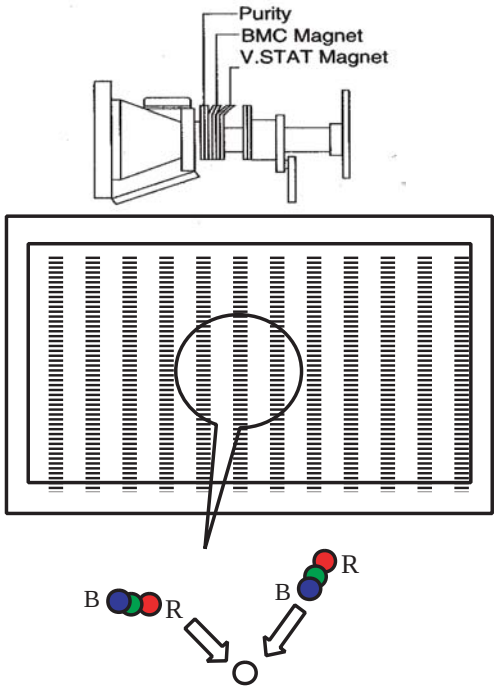


4. Lock the H-STAT control with locking paint.
5. Adjust the V-STAT magnets on the deflection yoke to vertically converge the red, green, and blue dots in the center of the screen.



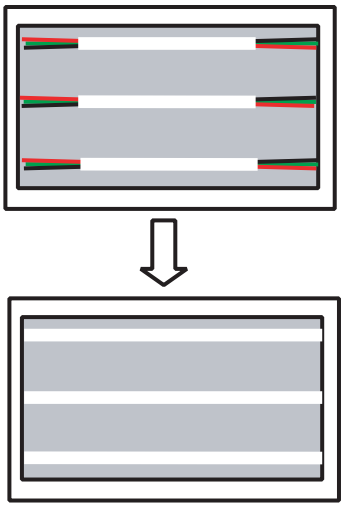
6. Adjust the BMC magnets and the V-STAT magnets for the best possible alignment of the red, green, and blue dots.

The magnets interact with each other, so you may have to alternately switch between them several times.

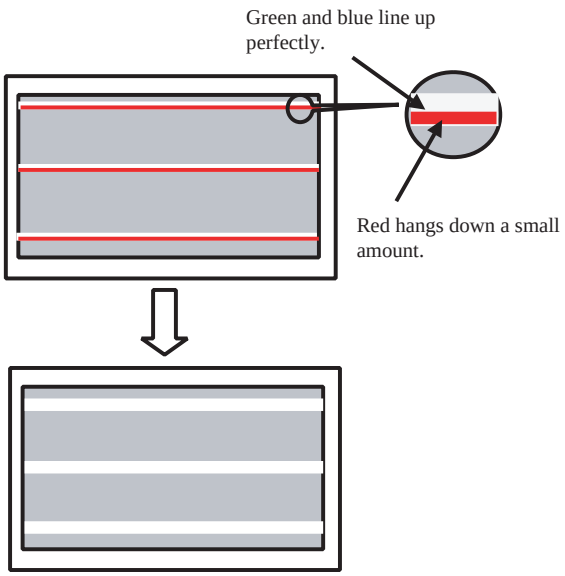


7. Secure the magnets by applying locking paint.
8. Adjust the convergence along the horizontal axis throughout the entire screen by turning the XCV core located at the bottom of the yoke assembly. A plastic tuning tool is required. Do not use a hex wrench as its magnetic properties will throw off the adjustment.

CAUTION! Do not turn the XVC core more than two full turns in either direction.



9. Balance any remaining misconvergence along the horizontal axis by adjusting the TLV control on the top of the yoke assembly.



10. Turn the set off, and then reconnect CN5510 on the D-board.

This completes the static convergence adjustment.

6. DYNAMIC CONVERGENCE ADJUSTMENTS

Perform these adjustments when any of the following are replaced: CRT, deflection yoke, D-board, and whenever touch-ups are required.

Required equipment:
NTSC generator with cross-hatch pattern.

NOTE: Throughout these adjustment procedures you will be instructed to "Write the data to memory". To do this, follow this procedure:

1. **Press the "MUTE" button ("WRITE" appears in green letters at the top right corner of the screen).**
2. **Press the "ENTER" button ("WRITE" changes from green to red, then "WRITE" changes to "SERVICE").**

SET-UP CONDITION:
Display Mode: FULL (NTSC)

Picture mode: STANDARD (select the STANDARD mode from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

TILT CORRECTION: set to zero (from the user menu).

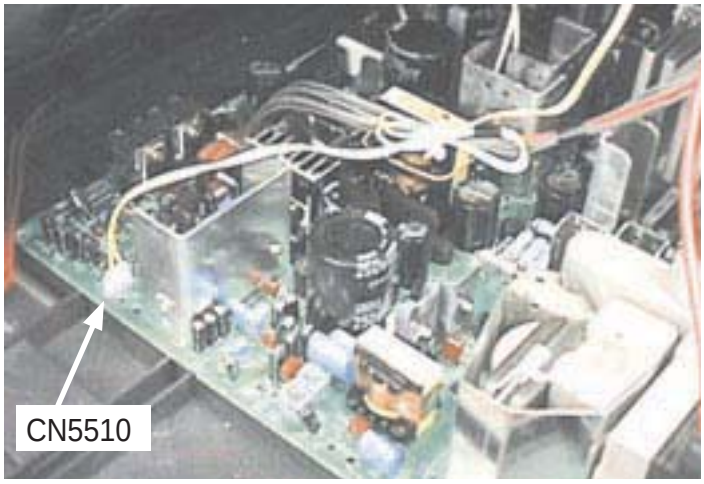
VERTICAL CORRECTION: set to zero (from the user menu).

PROCEDURE

1. Enter the service mode.
2. If the CRT or deflection yoke was replaced, set the data as shown below:

Device Name	Adj. Item #	Name	Data
D-CONV	0	SBHS	31
D-CONV	1	YBWU	31
D-CONV	2	YBWL	31
D-CONV	3	RSAP	31
D-CONV	4	RUBW	31
D-CONV	5	RLBW	31
D-CONV	6	LSAP	31
D-CONV	7	LUBW	31
D-CONV	8	LLBW	31

3. Display the cross-hatch pattern.
4. While observing the horizontal convergence, unplug connector CN5510 on the D-board.



The horizontal convergence should not shift. If it does shift, reconnect CN5510 and make the following adjustment:

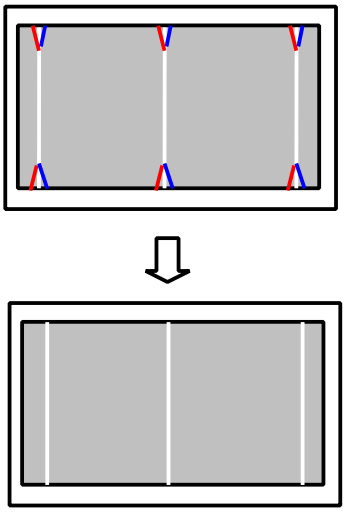
Device Name	Adj. Item #	Name	Data
D-CONV	9	CADJ	*

Adjust as necessary so that the horizontal convergence is the same regardless if CN5510 is plugged in or not.

5. Write the data to memory.
6. Make sure CN5510 is plugged in.
7. Remove the bow from the top and bottom of the vertical lines in the cross-hatch pattern.

Device Name	Adj. Item #	Name	Data
D-CONV	1	YBWU	*
D-CONV	2	YBWL	*

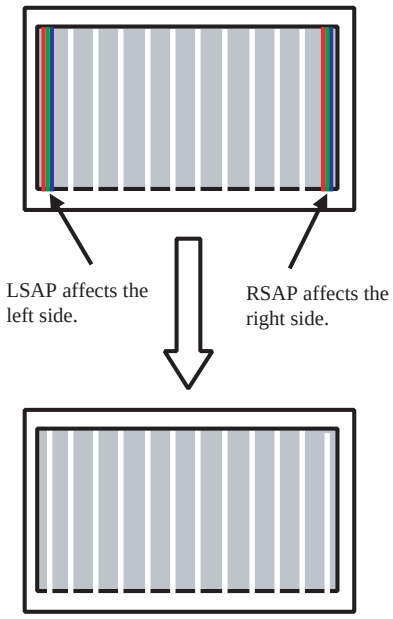
* Adjust as necessary to minimize the bow (separation).



8. Write the data to memory.

9. Converge the vertical lines at the sides of the screen.

Device Name	Adj. Item #	Name	Data
D-CONV	3	RSAP	*
D-CONV	6	LSAP	*



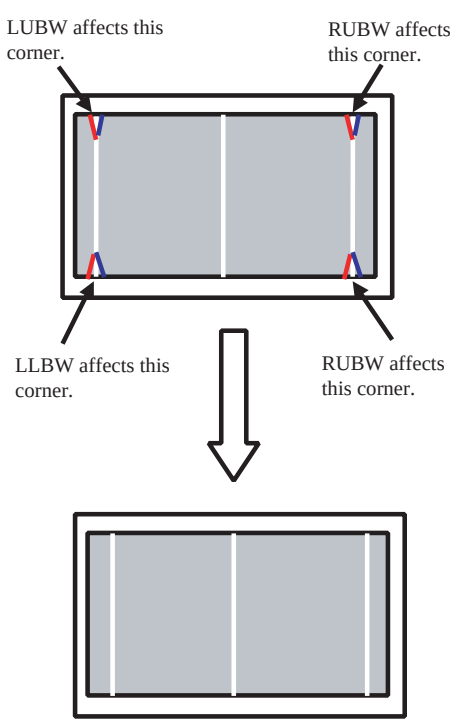
If the side horizontal convergence can't be achieved, the neck assembly may be too far forward or too far rearward. Refer to the Mechanical Pre-adjustments section.

10. Write the data to memory.

11. Remove the bow from the right and left side top and bottom of the vertical lines in the cross-hatch pattern.

Device Name	Adj. Item #	Name	Data
D-CONV	4	RUBW	*
D-CONV	5	RLBW	*
D-CONV	7	LUBW	*
D-CONV	8	LLBW	*

* Adjust as necessary to minimize the bow (separation).



12. Write the data to memory.

13. Check the convergence in the ZOOM, WIDE ZOOM, and HD1080i modes. Only minor touchups are allowed, as they affect the other modes. Make minor adjustments as necessary as described in the sections 5.7 to 5.12.

14. Copy the FULL mode convergence adjustments to the normal mode as follows:

    a) Select adjustment category “D-CONV”.

    b) Select adjustment item # 10 “COPY 2”.

    c) Change the data from “0” to “1”.

    d) Press “MUTING” and then press “ENTER”.

15. Select the NORMAL mode.

16. Adjust the NORMAL mode convergence as described in items 7 to 12.

This completes the dynamic convergence adjustment.

SECTION 7. PICTURE QUALITY ADJUSTMENTS

Perform these adjustments as necessary.

REQUIRED EQUIPMENT: NTSC generator with 100 IRE 100% color bar pattern or 75 IRE 75% color bar pattern (composite video and RF output).

NOTE: Throughout these adjustment procedures you will be instructed to "Write the data to memory". To do this, follow this procedure:

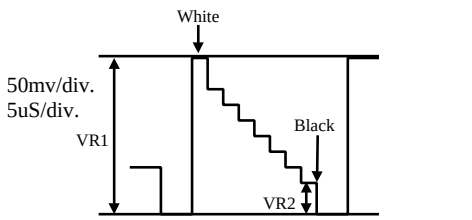
1. **Press the "MUTE" button ("WRITE" appears in green letters at the top right corner of the screen).**
2. **Press the "ENTER" button ("WRITE" changes from green to red, then "WRITE" changes to "SERVICE").**

7-1. DTV SUB-CONTRAST ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO
Color: Minimum
Picture: Maximum

INITIAL DATA:
Cat. 2150P-1, item #4 "RDRV", data = 45.
Cat. 2150P-1, item #7 "RCUT", data = 41.

PROCEDURE:
1. With set turned off, connect an oscilloscope to pin # 1 (R) of CN9001 on the C-board.
2. Display the 1080i color bar pattern from the TV's internal pattern generator as follows:
   a) Turn the set on and select the VHF-UHF antenna.
   b) Tune the TV to channel 2.1 ("two point one" not "twenty one"). Use the decimal point button on the remote. It's OK if there is no signal on channel 2.1.
   c) Turn the TV off.
   d) Enter the service mode.
   e) Select adjustment category "DTV"
   f) Select adjustment item # 1 "PATN".
   g) Change the data from "0" to "4". The 1080i color bar pattern will appear in a few seconds. The 1080i pattern automatically forces the TV into the FULL mode.
3. Select adjustment category "2150P-2", item # 1 "RGBS", and change the data from 7 to 4 (this turns off the blue and green).
4. Select adjustment category "2150P-4", item # 0 "SCON", and change the data so that the voltage difference between the peak white level and black level is 2.25 V +/- 0.05 V.



$VR1 - VR2 = \Delta VR = 2.25\ V \pm 0.05\ V_{p\text{-}p}$

5. Write the data to memory.
6. Select adjustment category "2150P-2", item # 1 "RGBS", and change the data from 4 to 7 (this turns the blue and green on).

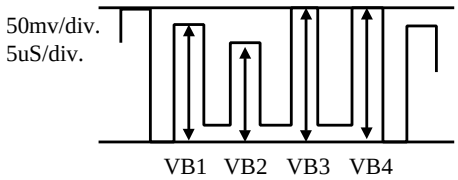
This completes the DTV sub-contrast adjustment.

7-2. DTV SUB-COLOR AND SUB-HUE ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO
Color: Factory default (press the RESET button while in PRO mode adjustment menu).
Picture: Maximum

INITIAL DATA:
Cat. 2150P-1, item #4 "RDRV", data = 45.
Cat. 2150P-1, item #7 "RCUT", data = 41.

PROCEDURE:
1. With set turned off, connect an oscilloscope to pin # 5 (B) of CN9001 on the C-board.
2. Display the 1080i color bar pattern from the TV's internal pattern generator (refer to section 7-1. item 2).
3. Select adjustment category "2150P-4", item # 1 "SCOL", and adjust the data so that VB1 and VB4 in the waveform meets the spec. shown below.
4. Select adjustment category "2150P-4", item # 2 "SHUE", and adjust the data so that VB2 and VB3 in the waveform meets the spec. shown below.



SCOL: VB1 ≤ VB4 (=VB1 + 0 ~ 90mV)
SHUE: VB2 ≤ VB3 (=VB2 + 0 ~ 90mV

5. Write the data to memory.

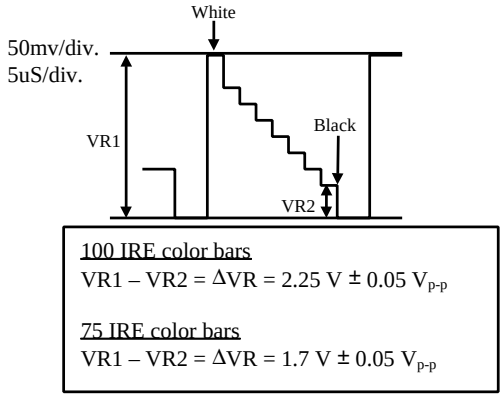
This completes the DTV sub-color and sub-hue adjustment.

7-3. ANALOG VIDEO SUB-CONTRAST ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO
Color: Minimum
Picture: Maximum
Display mode: FULL

INITIAL DATA:
Cat. 2150P-1, item #4 “RDRV”, data = 45.
Cat. 2150P-1, item #7 “RCUT”, data = 41.

PROCEDURE:
1. With set turned off, connect an oscilloscope to pin # 1 (R) of CN9001 on the C-board.
2. Enter the service mode.
3. Display a color bar pattern through the video-1 input.
4. Select adjustment category “2150P-2”, item # 1 “RGBS”, and change the data from 7 to 4 (this turns off the blue and green).
5. Select adjustment category “2150P-4”, item # 0 “SCON”, and change the data so that the voltage difference between the peak white level and black level is 2.25 V +/- 0.05 V for 100 IRE color bars, or 1.7 V +/- 0.05 V for 75 IRE color bars.



100 IRE color bars
VR1 – VR2 = ΔVR = 2.25 V ± 0.05 V_{p-p}

75 IRE color bars
VR1 – VR2 = ΔVR = 1.7 V ± 0.05 V_{p-p}

6. Write the data to memory.
7. Select adjustment category “2150P-2”, item # 1 “RGBS”, and change the data from 4 to 7 (this turns the blue and green on).

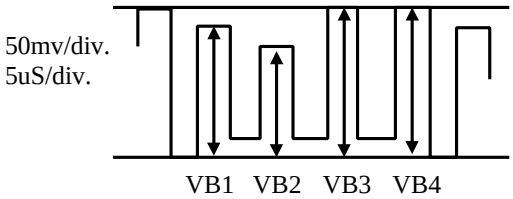
This completes the analog video sub-contrast adjustment.

7-4. ANALOG VIDEO SUB-COLOR AND SUB-HUE ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO
Color: Factory default (press the RESET button while in PRO mode adjustment menu).
Picture: Maximum
Display mode: FULL

INITIAL DATA:
Cat. 2150P-1, item #4 “RDRV”, data = 45.
Cat. 2150P-1, item #7 “RCUT”, data = 41.

PROCEDURE:
1. With set turned off, connect an oscilloscope to pin # 5 (B) of CN9001 on the C-board.
2. Enter the service mode.
3. Display a color bar pattern through the video-1 input.
4. Select adjustment category “2150P-4”, item # 1 “SCOL”, and adjust the data so that VB1 and VB4 in the waveform meets the spec. shown below.
5. Select adjustment category “2150P-4”, item # 2 “SHUE”, and adjust the data so that VB2 and VB3 in the waveform meets the spec. shown below.



SCOL: VB1 ≤ VB4 (=VB1 + 0 ~ 90mV)
SHUE: VB2 ≤ VB3 (=VB2 + 0 ~ 90mV

6. Write the data to memory.

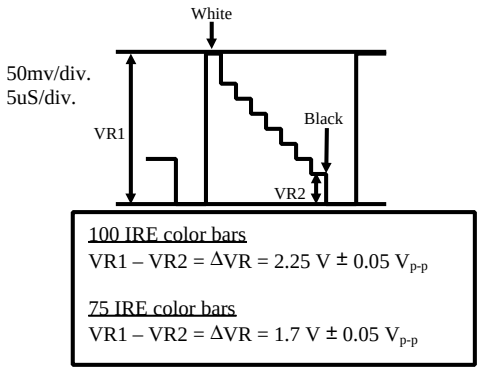
This completes the analog video sub-color and sub-hue adjustment.

7-5. RF SUB-CONTRAST ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO
Color: Minimum
Picture: Maximum
Display mode: TWIN mode (P&P)

INITIAL DATA:
Cat. 2150P-1, item #4 “RDRV”, data = 45.
Cat. 2150P-1, item #7 “RCUT”, data = 41.

PROCEDURE:
1. With set turned off, connect an oscilloscope to pin # 1 (R) of CN9001 on the C-board.
2. Enter the service mode.
3. Display a color bar pattern through an RF (tuner) input.
4. Select adjustment category “2150P-2”, item # 1 “RGBS”, and change the data from 7 to 4 (this turns off the blue and green).
5. Select adjustment category “2103-1”, item # 2 “SCON” (for the left side picture) and “2103-2”, item # 2 “SCON” (for the right side picture), and change the data so that the voltage difference between the peak white level and black level is 2.25 V +/- 0.05 V for 100 IRE color bars, or 1.7 V +/- 0.05 V for 75 IRE color bars.



100 IRE color bars
$VR1 - VR2 = \Delta VR = 2.25\ V \pm 0.05\ V_{p\text{-}p}$

75 IRE color bars
$VR1 - VR2 = \Delta VR = 1.7\ V \pm 0.05\ V_{p\text{-}p}$

6. Write the data to memory.
7. Select adjustment category “2150P-2”, item # 1 “RGBS”, and change the data from 4 to 7 (this turns the blue and green on).

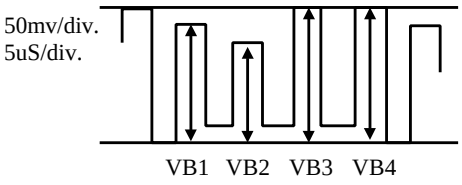
This completes the RF sub-contrast adjustment.

7-6. ANALOG VIDEO SUB-COLOR AND SUB-HUE ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO
Color: Factory default (press the RESET button while in PRO mode adjustment menu).
Picture: Maximum
Display mode: TWIN mode (P&P)

INITIAL DATA:
Cat. 2150P-1, item #4 “RDRV”, data = 45.
Cat. 2150P-1, item #7 “RCUT”, data = 41.

PROCEDURE:
1. With set turned off, connect an oscilloscope to pin # 5 (B) of CN9001 on the C-board.
2. Enter the service mode.
3. Display a color bar pattern through an RF (tuner) input.
4. Select adjustment category “2103-1”, item # 3 “SCOL” for the left side picture, and “2103-2”, item # 3 “SCOL” for the right side picture, and adjust the data so that VB1 and VB4 in the waveform meets the spec. shown below.
5. Select adjustment category “2103-1”, item # 4 “SHUE” for the left side picture, and “2103-2” item # 4 “SHUE” for the right side picture, and adjust the data so that VB2 and VB3 in the waveform meets the spec. shown below.



SCOL: VB1 ≤ VB4 (=VB1 + 0 ~ 90mV)
SHUE: VB2 ≤ VB3 (=VB2 + 0 ~ 90mV

6. Write the data to memory.

This completes the RF sub-color and sub-hue adjustment.

SECTION 8. WHITE BALANCE, SUB-BRIGHTNESS AND G2 ADJUSTMENTS

Perform White Balance and Sub-brightness adjustments as necessary. Perform G2 adjustment whenever the CRT or D-board is replaced, and whenever tinting or faint lines are seen in all-black areas of the screen.

Required equipment:
NTSC generator with white raster and gray-scale pattern (color bar pattern with chroma turned off is OK).

NOTE: Throughout these adjustment procedures you will be instructed to "Write the data to memory". To do this, follow this procedure:

1. **Press the "MUTE" button ("WRITE" appears in green letters at the top right corner of the screen).**
2. **Press the "ENTER" button ("WRITE" changes from green to red, then "WRITE" changes to "SERVICE").**

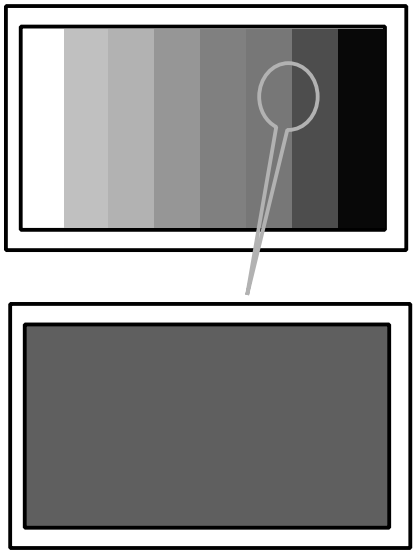
8-1. WHITE BALANCE ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO mode at factory default (press the RESET button while in PRO mode adjustment menu), then set COLOR to 50%.

PROCEDURE:
1. Select the video-1 input.
2. Enter the service mode.
3. Set the following initial data:

Device Name	Adj. Item #	Name	Data
2150P-1	4	RDRV	45
2150P-1	7	RCUT	41
2150P-1	1	CBOF	34
2150P-1	2	CROF	32
2103-1	20	CBOF	34
2103-1	21	CROF	32
2103-2	20	CBOF	33
2103-2	21	CROF	33

4. Display a gray-scale pattern (or color bars with the chroma turned off) and closely observe the 2 darkest gray bars (not including the black bar).
5. Display a white raster again, and adjust the pattern generator's output level so that raster level is in the middle of the level of the 2 darkest gray bars observed in the previous step.



6. Alternately adjust category 2150P-1 items # 8 "GCUT" and 9 "BCUT" to obtain the purest gray (no color tint). Use the center area of the screen to make your judgment.
7. Write the data to memory.
8. Display a 480i (NTSC) white raster through the video-1 input.
9. Alternately adjust category 2150P-1 items # 5 "GDRV" and 6 "BDRV" to obtain the purest white (no color tint). Use the center area of the screen to make your judgment.
10. Write the data to memory.
11. Alternately repeat steps 6 through 9 until the dark gray and white rasters do not show any evidence of color tinting.
12. Write the data to memory.
13. Change the set from the video-1 mode to the DTV mode as follows:

    a) Turn the set on and select the VHF-UHF antenna.

    b) Tune the TV to channel 2.1 ("two point one" not "twenty one"). Use the decimal point button on the remote. It's OK if there is no signal on channel 2.1.

    c) Turn the TV off.

    d) Enter the service mode.

14. Change white balance offset data for the DTV mode as follows:

Device Name	Adj. Item #	Name	Data
2150P-1	1	CBOF	26
2150P-1	2	CROF	26

15. Write the data to memory.
16. Change the set from DTV mode to TWIN (P&P) mode.
17. Change white balance offset data for the TWIN mode as follows:

Device Name	Adj. Item #	Name	Data
2150P-1	1	CBOF	36
2150P-1	2	CROF	36

18. Write the data to memory.
19. Change the set from TWIN mode to video-5 mode. An input signal is not necessary.

20. Change white balance offset data for the video-5 mode as follows:

Device Name	Adj. Item #	Name	Data
2150P-1	1	CBOF	36
2150P-1	2	CROF	36
2103-1	20	CBOF	36
2103-1	21	CROF	38

21. Write the data to memory.

22. Change the set from video-5 mode to video-6 mode. An input signal is not necessary.

23. Change white balance offset data for the video-6 mode as follows:

Device Name	Adj. Item #	Name	Data
2103-1	20	CBOF	32
2103-1	21	CROF	32

24. Write the data to memory.

This completes the white balance adjustment.

8-2. SUB-BRIGHTNESS ADJUSTMENT

SET-UP CONDITION:
Picture mode: PRO mode at factory default (press the RESET button while in PRO mode adjustment menu), then set PICTURE to minimum.

The room must be dark.

PROCEDURE:
1. Enter the service mode.
2. Select the video-1 input with no signal applied so that the screen is black (except for the on-screen display).
3. Set the sub-bright offset data as follows:

Device Name	Adj. Item #	Name	Data
2150P-1	11	SBOF	7

4. Adjust the sub-bright data so that there is no light output from the CRT in the black areas of the screen.

Device Name	Adj. Item #	Name	Data
2150P-1	3	SBRT	*

* Adjust as necessary.

5. Write the data to memory.

This completes the sub-brightness adjustment.

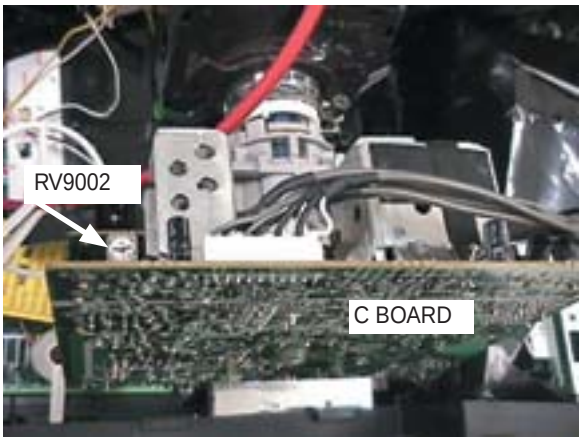
8-3. G2 ADJUSTMENT

Perform this adjustment whenever the CRT or D-board is replaced, and whenever tinting or faint lines are seen in all-black areas of the screen.

SET-UP CONDITION:
Display mode: FULL (NTSC)

Picture mode:STANDARD (enter the STANDARD mode adjustment menu from the user menu, then press the RESET button on the remote control to set the STANDARD settings to the factory settings).

PROCEDURE:
1. Select an unused input so that the screen is black except for the on-screen display.
2. Make the room as dark as possible.
3. Turn G2 RV9002 on the C-board clockwise until a slight glow is seen in the black areas of the screen.
4. Turn G2 RV9002 on the C-board counter-clockwise until the glow disappears and the black areas have no light output.



This completes the G2 adjustment.

SECTION 9: SAFETY RELATED ADJUSTMENTS

⋈ RV8001, RV8002 CONFIRMATION METHOD AND HV SERVICE ADJUSTMENTS

B+ MAX CONFIRMATION

Standard ..... 135.3 ± 1 VDC

Check Condition:

AC input voltage: ..... 120 (± 2) VAC at Board Adjustment Process

..... 130 (± 2) VAC at QC

... 120 (± 2) VAC at Overall Adjustment (after aging)

Note: If using a stabilized power supply, make sure that the distortion factor is 3% or less.

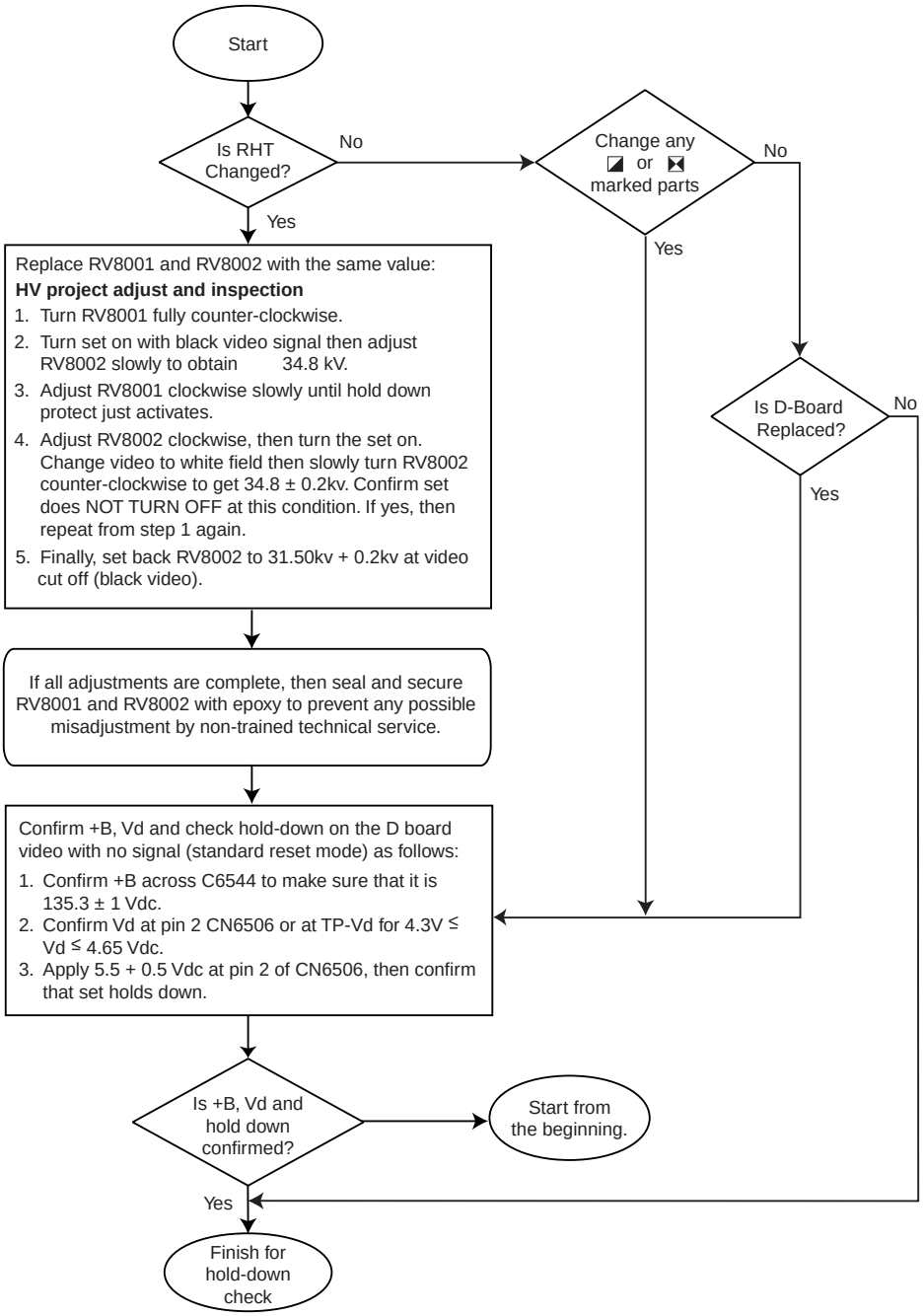
Setting mode: ..... Full mode

Signal input: ..... Cross-hatch of NTSC at QC

Initial setting: ..... Reset condition at QC

Confirm point: ..... Across C6544 for B+ of D Board

HV SERVICE FLOWCHART



SECTION 10: CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

Use the Remote Commander (RM-Y185) to perform the circuit adjustments in this section.

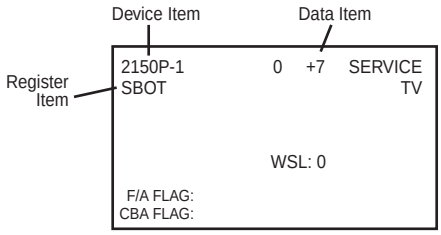
Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

10-1. SETTING THE SERVICE ADJUSTMENT MODE

1. Standby mode (Power off).
2. Press the following buttons on the remote commander within one second of each other:

   DISPLAY → Channel 5 → Sound Volume + → Power

SERVICE ADJUSTMENT MODE VIEW



READING THE MEMORY

1. Enter into Service Mode.
2. Press 0 on the remote commander.
3. Press ENTER to read memory.

ADJUSTING THE PICTURE

1. Enter into Service Mode
2. Press 2 or 5 on the remote to select the device item.
3. Press 1 or 4 on the remote to select an item.
4. Press 3 or 6 on the remote to change the data.
5. Press MUTING then ENTER to write into memory.

RESETTING THE DATA

Note: Be careful when using the remote! It will clear and re-initialize ALL NVM data including deflection adjustment data if not reset properly as follows:

RESETTING THE DEFLECTION NVM DATA

1. Enter into Service Mode.
2. Press 7, then MENU, and then press ENTER on the remote.

RESETTING THE SYSTEM NVM DATA

1. Enter into Service Mode.
2. Press 7, then 9, and then press ENTER on the remote.

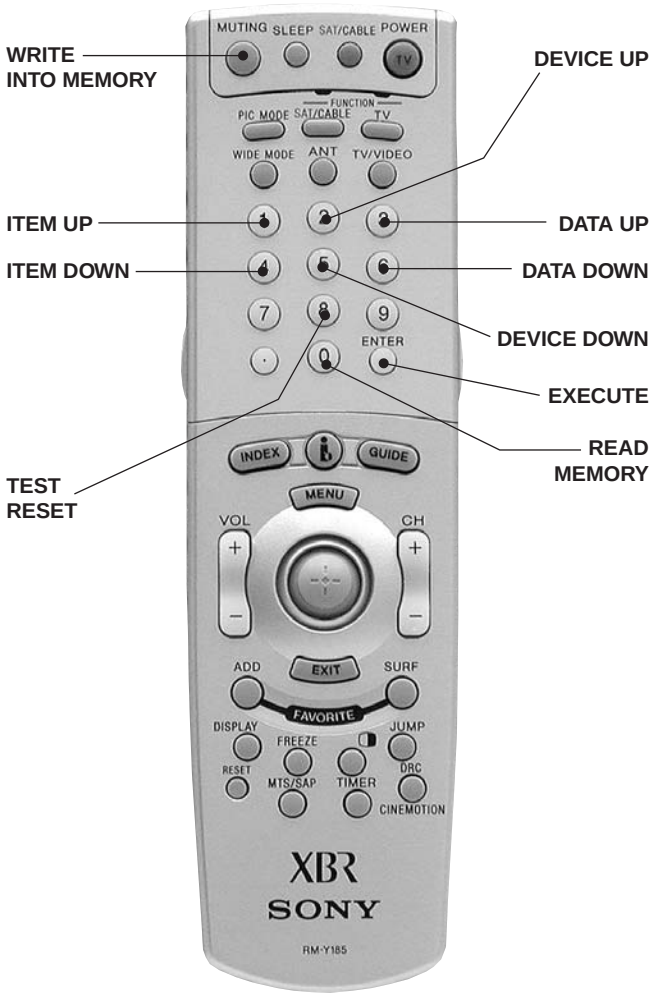
RESETTING THE SYSTEM NVM DATA

1. Enter into Service Mode.
2. Press 8 and then press ENTER on the remote.

10-2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm they were adjusted.

10-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y185

10-4. SERVICE DATA LISTS

HA3 Main Chroma Decoder (CXA2103) Service List (1)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings			
		The Following data depends on Signal Path	**DRC**	**VDO**		
0	**YLEV**	Y out-level gain[0:2.9dB, 63:9.0dB]	35	35		
1	**CLEV**	CbCr out-level gain[0:2.9dB, 63:9.0dB]	50	42		
		The Following Data Depends on Signal Input	**RF**	**CV/YC**		
2	**SCON**	SUB contrast[0:-2dB, 15:+2dB]	9	9		
3	**SCOL**	SUB color[0:-2dB, 15:+2dB]	2	2		
4	**SHUE**	SUB hue[0:-8.8deg, 15:+8.8deg]	11	5		
5	**YDLY**	Y/C delay[0:Ref, 1:30ns Y-delay, 2:60ns, 3:100ns]	0	0		
		The Following Data Depends on Signal Input	**RF**	**CV**	**V5**	**YC**
6	**SHAP**	Sharpness[0:-3dB, 15:+3dB]	6	8	4	8
7	**SHF0**	Sharpness F0[0:2.5MHz, 1:3.0MHz, 2:3.5MHz, 3:4.0MHz]	0	0	3	0
8	**PREO**	Pre.-Over ratio[0: 1.5:1, 1: 1:1, 2: 1:1.5, 3: 1:2]	3	3	3	3
		The Following Data Depends on Signal Input	**RF**	**CV**	**YC**	
9	**BPF0**	Chroma BPF F0[0:fsc, 1:fsc+400k, 2:fsc+800k, 3:fsc+1.2M]	3	0	0	
10	**BPFQ**	Chroma BPF Q[0:2.0, 1:1.5, 2:1.2, 3:1.0]	0	3	3	
11	**BPSW**	Chroma BPF On/Off[0:Off, 1:On]	1	0	0	
12	**TRAP**	Chroma trap on Y On/off[0:Off, 1:On]	0	0	0	
		The Following Data Depends on Signal Input	**DRC**	**VDO**		
13	**LPF**	Output LPF(YCbCr) [0:On, 1:Off(through)]	1	0		

HA3 Main Chroma Decoder (CXA2103) Service List (2)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings				
		The Following Data Depends on Signal Input	**RF**	**CV/YC**	**V5/V6**		
14	**AFCG**	PLL loop gain[0:fast, 1:slow]	1	0	0		
15	**CDMD**	Count down mode[0/1/3:CountDown, 2:H look *Tc:0>1>3]	3	3	3		
16	**SSMD**	Slice level[0:auto, 1:HV 65%, 2:H25% V65%, 3:HV25%]	0	0	0		
17	**HMSK**	Mask for MacroVision[0:Off, 1:On]	0	1	1		
18	**HALI**	Auto H alignment[0:Off, 1:On(AFC free run)]	0	0	0		
19	**PPHA**	Picture/H Tim phase[0:-0.5us, 15:+0.5us]	7	7	7		
		The Following Data Depends on Signal Input	**RF**	**V5**	**V6**		
20	**CBOF**	Cb/Ext Cb offset[0:-16mV, 63:+16mV]	**34**	**36**	**32**		
21	**CROF**	Cr/Ext Cr offset[0:-16mV, 63:+16mV]	**32**	**38**	**32**		
		The Following Data Depends on CXA2150P-4 BLK	**Single**	**BLK(0)**	**BLK(1)**	**BLK(2)**	**BLK(3)**
22	**ATPD**	Auto pedestal point[0:Through, 1:20IRE, 2:30IRE, 3:40IRE]	0	0	1	2	3
23	**DCTR**	DC transfer ratio [0:100%, 1:95%, 2:90%, 3:85%]	0	0	1	1	1
		Continued	**BLK(4)**	**BLK(5)**	**BLK(6)**	**BLK(7)**	
22	**ATPD**	Auto pedestal point[0:Through, 1:20IRE, 2:30IRE, 3:40IRE]	**2**	2	3	1	
23	**DCTR**	DC transfer ratio [0:100%, 1:95%, 2:90%, 3:85%]	**3**	2	2	2	

****Main and Sub CXA2103 share the same data for items 22 & 23**

SERVICE DATA LISTS

HA3 Sub Chroma Decoder (CXA2103) Service List (1)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings			
		The Following data depends on Signal Path	**DRC**	**VDO**		
0	**YLEV**	Y out-level gain[0:2.9dB, 63:9.0dB]	35	35		
1	**CLEV**	CbCr out-level gain[0:2.9dB, 63:9.0dB]	50	42		
		The Following Data Depends on Signal Input	**RF**	**CV/YC**		
2	**SCON**	SUB contrast[0:-2dB, 15:+2dB]	8	8		
3	**SCOL**	SUB color[0:-2dB, 15:+2dB]	3	3		
4	**SHUE**	SUB hue[0:-8.8deg, 15:+8.8deg]	10	3		
5	**YDLY**	Y/C delay[0:Ref, 1:30ns Y-delay, 2:60ns, 3:100ns]	0	0		
		The Following Data Depends on Signal Input	**RF**	**CV**	**V5**	**YC**
6	**SHAP**	Sharpness[0:-3dB, 15:+3dB]	2	2	7	2
7	**SHF0**	Sharpness F0[0:2.5MHz, 1:3.0MHz, 2:3.5MHz, 3:4.0MHz]	0	0	3	0
8	**PREO**	Pre.-Over ratio[0: 1.5:1, 1: 1:1, 2: 1:1.5, 3: 1:2]	3	3	1	3
		The Following Data Depends on Signal Input	**RF**	**CV**	**YC**	
9	**BPF0**	Chroma BPF F0[0:fsc, 1:fsc+400k, 2:fsc+800k, 3:fsc+1.2M]	0	0	0	
10	**BPFQ**	Chroma BPF Q[0:2.0, 1:1.5, 2:1.2, 3:1.0]	3	3	3	
11	**BPSW**	Chroma BPF On/Off[0:Off, 1:On]	1	1	1	
12	**TRAP**	Chroma trap on Y On/off[0:Off, 1:On]	0	0	0	
		The Following Data Depends on Signal Input	**DRC**	**VDO**		
13	**LPF**	Output LPF(YCbCr) [0:On, 1:Off(through)]	1	0		

SERVICE DATA LISTS

HA3 Sub Chroma Decoder (CXA2103) Service List (2)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings		
		The Following Data Depends on Signal Input	**RF**	**CV/YC**	**V5/V6**
14	**AFCG**	PLL loop gain[0:fast, 1:slow]	1	0	0
15	**CDMD**	Count down mode[0/1/3:CountDown, 2:H look *Tc:0>1>3]	3	3	3
16	**SSMD**	Slice level[0:auto, 1:HV 65%, 2:H25% V65%, 3:HV25%]	0	0	0
17	**HMSK**	Mask for MacroVision[0:Off, 1:On]	0	1	1
18	**HALI**	Auto H alignment[0:Off, 1:On(AFC free run)]	0	0	0
19	**PPHA**	Picture/H Tim phase[0:-0.5us, 15:+0.5us]	7	7	7
		The Following Data Depends on Signal Input	**RF**	**V5**	**V6**
20	**CBOF**	Cb/Ext Cb offset[0:-16mV, 63:+16mV]	**33**	29	25
21	**CROF**	Cr/Ext Cr offset[0:-16mV, 63:+16mV]	**33**	30	25
22	**2SCO**	SCON offset of CV for 2H Comb[0:-7step, 7:+-0step, 15:+8step]	7		
23	**2SCL**	SCOL offset of CV for 2H Comb[0:-7step, 7:+-0step, 15:+8step]	7		
24	**2SHU**	SHUE offset of CV for 2H Comb[0:-7step, 7:+-0step, 15:+8step]	7		

HA3 3DComb Filter (uPD64082) Service List (1)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings			
0	**NRMD**	Noise reduction mode[0:YCS, 1:YCS+, 2:MNNR, 3:YCNR]				
1	**YAPS**	Y aperture/peaking[0:OFF, 1:A-ON, 2:D-ON, 3:A/D-ON]	**3**			
	The following data depends on NRMD data		**NRMD(0)**	**NRMD(1)**	**NRMD(2)**	**NRMD(3)**
2	**CLKS**	System CLK[0:Auto, 1:Forced-Burst, 2/3:Forced-H freq.]	1	1	1	1
3	**NSDS**	Signal [0:Auto, 1:F-ST, 2:F-nonST(H), 3:F-nonST(V)]				
4	**MSS**	Processing [0:Auto, 1:F-Inter Frame, 2/3:F-Inter Line]				
5	**KILS**	Color Killer[0:Auto, 1:PortCont. 2/3:F-Killer]				
	The following data depends on NRMD data		**NRMD(0)**	**NRMD(1)**	**NRMD(2)**	**NRMD(3)**
6	**CDL**	Chroma delay time[0:-280ns, 4:0ns, 7:+210ns]	3	3	3	3
7	**DYCO**	Y coring level[0:Coring 0, 15:Large amount of Coring]	2	2	2	2
8	**DYGA**	Y coring gain[0:0 gain, 15:Maximum gain]	10	10	10	10
9	**DCCO**	C coring level[0:Coring 0, 15:Large amount of Coring]	5	5	5	5
10	**DCGA**	C coring gain[0:0 gain, 15:Maximum gain]	5	5	5	5
11	**YNRL**	YNR limit[0:YNR off(0 LSB), 3:YNR 3LSB]	1			
12	**CNRL**	CNR limit[0:CNR off(0 LSB), 3:CNR 3LSB]	1			
	The following data depends on the Video Input		**RF**	**CV/YC**	**V5/V6**	
13	**VTRH**	H Hysteresis of nonST signal det.[0:Hys-off, 3:Hys-high]	1	1	1	
14	**VTRR**	H Sensitivity of nonST signal det.[0:High, 3:Off]	1	1	1	
15	**LDSR**	Frame sensitivity of nonST signal det.[0:High, 3:Off]	2	2	2	

HA3 3DComb Filter (uPD64082) Service List (2)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings				
		The following data depends on Picture Pallete	**Vivid**	**Standard**	**Movie**	**Game**	**Pro**
16	**VAPG**	Vertical aperture gain[0:Off, 7:Maximum]	4	2	2	2	0
17	**VAPI**	Vertical aperture conv.point[0:Off, 31:Max correction]	4	4	4	4	0

			Vivid		**Standard**		**Movie**	
		The following data depends on Picture Pallete and Video Input	**RF**	**CV/YC**	**RF**	**CV/YC**	**RF**	**CV/YC**
18	**YPFT**	Y peaking freq.[0:3.58MHz, 1:3.86, 2:4.08, 3:4.22]	3	3	3	3	3	3
19	**YPFG**	Y peaking gain[0:-1times, 8:0times, 15:+0.875times]	**7**	5	**7**	5	5	6

			Game		**Pro**		**TWIN**
		Continued	**RF**	**CV/YC**	**RF**	**CV/YC**	**Any**
18	**YPFT**	Y peaking freq.[0:3.58MHz, 1:3.86, 2:4.08, 3:4.22]	3	3	3	3	3
19	**YPFG**	Y peaking gain[0:-1times, 8:0times, 15:+0.875times]	**7**	5	5	5	6

20	**YHCO**	Y coring for y[0:Off, 1:Small, 2:Mid, 3:Large]	1
21	**YHCG**	Y coring gain for High frequency[0:Normal, 1:0.5gain]	0
22	**HSSL**	Holizontal sync slice level[0:4LSB, 15:19LSB]	12
23	**VSSL**	Vertical sync slice level[0:HSSL+0LSB, 15:HSSL+15LSB]	8
24	**ADCL**	ADC clock delay[0:0ns, 1:3ns, 2:17.5ns, 3:20.5ns]	3

		The following data depends on NRMD Data	**NRMD(0)**	**NRMD(1)**	**NRMD(2)**	**NRMD(3)**
25	**D2GA**	Motion detect gain	4	4	4	4

HA3 3DComb Filter (uPD64082) Service List (3)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings				
	The following data depends on the Video Input		**RF**	**CV/YC**	**V5/V6**		
26	**SEDY**	Select DY detect [0:low sensitivity, 1:high sensitivity]	1	1	1		
27	**SEDC**	Select DC detect [0:low sensitivity, 1:high sensitivity]	0	0	0		
28	**KILR**	Killer detector[0:off, 1:low sensitivity, 15:high sens.]	3				
29	**OP**	NRMD for Y/C input[0:Recursive Type, 1:Comb Type]	1				
	The following data depends on the Video Input		**RF**	**V1-CV**	**V2-CV**	**V3-CV**	**V4-CV**
30	**NR1**	Initial setting of NR On/Off[0:On, 1:Off]	1	0	0	0	0
		continued	**V1-YC**	**V2-YC**	**V3-YC**	**V4-YC**	
30	**NR1**	Initial setting of NR On/Off[0:On, 1:Off]	0	0	0	0	
31	**NR2**	S/N adaptive processing [0:On, 1:Off]	0				
32	**HPLL**	H PLLl filter[0:Slow convergence, 1:Quick convergence]	1				
33	**BPLL**	Burst pll filter[0:Quick convergence, 1:Slow convergence]	1				
34	**FSCF**	Burst extraction gain[0:High gain, 1:Low gain]	0				
35	**PLLF**	PLL loop gain[0:Low gain, 1:High gain]	1				
	The following data depends on the Video Input		**RF**	**CV/YC**	**V5/V6**		
36	**CC3N**	C filter characteristic of comb filter[0:Narrow, 1:Wide]	0	0	0		

HA3 3DComb Filter (uPD64082) Service List (4)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings		
	The following data depends on the Video Input		**RF**	**CV/YC**	**V5/V6**
36	**CC3N**	C filter characteristic of comb filter[0:Narrow, 1:Wide]	0	0	0
37	**HDP**	Horizontal phase[0:-1.12us, 4:0us, 7:+0.84us]	4		
28	**BGPS**	Burst gate start[0:HS center+2us, 15:HS center+5.75us]	4		
29	**BGPW**	Burst gate width[0:0.5us, 15:4.25us]	10		
40	**TEST**	Test bit[0:Normal, 1:Test mode]	0		
41	**WSC**	Noise det. Coring[0:0LSB, 1:1LSB, 2:2LSB, 3:3LSB]	1		
	The following data depends on the Video Input		**RF**	**CV/YC**	**V5/V6**
42	**LIND**	262P detect [xx1:non-st H, x1x:non-st V, 1xx:LD still]	0	0	2

HA3 Video Processor (CXA2150P-1) Service List

No.	ITEM	NAME/DESCRIPTION	Initial Data Settings			
The Following Data depends on the Signal Path & Source			Analog: 1080i	Analog: Other	DTV	TWIN
0	YOF	Yoffset[0:-39mV,7:0mV,15:+45mV]	7	7	7	7
1	CBOF	Cboffset[0:B-36mVG+16mV,31:B+0G+0,63:B+43G-20]	31	36	26	36
2	CROF	Croffset[0:R-46mVG+10mV,31:R+0G+0,63:R+55G-12]	31	36	26	36
3	SBRT	SUB brightness [0:-15 IRE, 31:+0 IRE, 63:+15 IRE]	31			
4	RDRV	Rdrive gain [0:-4dB, 41:+0dB, 63:+2dB]	45			
5	GDRV	Gdrive gain [0:-4dB,41:+0dB,63:+2dB]	35			
6	BDRV	Bdrive gain [0:-4dB,41:+0dB,63:+2dB]	34			
7	RCUT	Rcut-off [0:-9dB,31:+0dB,63:+4dB]	41			
8	GCUT	Gcut-off [0:-9dB,31:+0dB,63:+4dB]	35			
9	BCUT	Bcut-off[0:-9dB,31:+0dB,63:+4dB]	18			

Used when a 1080i signal by-passes the MID

Used for Analog signals passing through the MID

The Following Data depends on Color Temperature			WARM	COOL
10	WBSW	White balance offset [0:Normal, 1:R100% G90% B70%]	1	0
11	SBOF	Sub brightness offset-Color Temp.[0:-7, 7:0, 15:+8]	7	7
12	RDOF	RDRV offset [0:-15, 15:0, 31:+16]	15	15
13	GDOF	GDRV offset [0:-15, 15:0, 31:+16]	18	15
14	BDOF	BDRV offset [0:-15, 15:0 ,31:+16]	28	18
15	RCOF	RCUT offset [0:-15, 15:0, 31:+16]	15	15
16	GCOF	GCUT offset [0:-15, 15:0, 31:+16]	18	15
17	BCOF	BCUT offset [0:-15, 15:0, 31:+16]	26	18
18	DCOL	Dynamic Color, Cool [0:Off, 1:High (2025), 2:Mid (2100), 3:Low]	3	--

Title:Video Processor Service List (CXA2150P-1)

SERVICE DATA LISTS

HA3 Video Processor (CXA2150P-2) Service List				
No.	**ITEM**	**NAME/DESCRIPTION**	**Initial Data Settings**	
0	**ALBK**	Picture + Ref. Pulse on/off for G2 adj. [0:RGB off, 1:RGB on]	1	
1	**RGBS**	[0: All off, 1:B, 2:G, 3:BG, 4:R, 5:BR, 6:GR, 7:BGR]	7	
2	**BLKB**	Bottom limiter level [Ref. Pulse DC voltage 0:-1.25, 3:-0.65]	3	
3	**LIML**	RGB limmiter level [0:115 IRE, 1:123, 2:131, 3:140]	0	
4	**PABL**	Peak ABL [0:4.9VDC, 15:6.8VDC]	15	
5	**SABL**	Signal ABL level [0:off, 3:maximum gain]	0	
6	**AGNG**	Black/White aging [0:Normal, 1:Black, 2:White, 3:Inhibit]	0	
7	**AKBO**	AKB on/off [0:on, 1:off]	0	
The following data depends on the signal format			**Analog 1080i**	**Others PT**
8	**SYPH**	HSYNC delay [0:0%, 1:-3.125%]	0	0
9	**CLPH**	Clamp pulse phase [0:+5%, 1:+4%, 2:+1%, 3:+2%]	3	3
10	**CLGA**	Clamp gate on/off [0:Not gated, 1:Gated with input HSYNC]	0	0
11	**CLSH**	Clamp pulse start shift [0:Noshift, 1:-3.125% shift from CLPH]	0	0

Used when a 1080i signal by-passes the MID

Used for Analog signals passing through the MID

Title:VideoProcessorServiceList (CXA2150P-2)

SERVICE DATA LISTS

HA3VideoProcessor(CXA2150P-3)ServiceList(1)												
No.	ITEM	NAME/DESCRIPTION	Initial Data Settings									
			Vivid Mode									
		The Following data depends on signal format and Picture Pallet	RF	CV/YC	Comp 480i	Comp 480p	Comp 1080i	Comp 720p	DTV 480i	DTV 480p	DTV 1080i	DTV 720p	Twin
0	SYSM	Bandwidth [0:NTSC, 1:FF, 2:HD, 3:DTV]	1	1	1	1	3	3	1	1	3	3	2
1	VMLV	Not Used in HA3											
2	VMMO	VM Mode (VM_LEV) [0:Off, 1:Low, 2:Mid, 3:High]	3	3	3	3	3	3	3	3	3	3	3
3	VMCR	VM coring level [0:Off, 1:+-5%, 2:+-10%, 3:+-15%]	1	0	0	0	0	0	0	0	0	0	3
4	VMLM	VM limitter level [0:Off, 1:+-83%, 2:+-67%, 3:+-50%]	3	3	3	3	3	3	3	3	3	3	3
5	VMF0	VM f0 [0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	0	0	1	1	0	0	0
6	VMDL	VM delay [0:short, 3:long]	1	1	1	1	2	2	1	1	2	2	2
7	SHOF	Sharpness offset [0:+0step, 1:+4step, 2:+8step, 3:+12step]	2	2	2	1	3	3	2	2	3	3	0
8	SHF0	Sharpness f0 [0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	1	1	1	1	1	1	1
9	PROV	Pre-Over Ratio [0:1:1.5, 1:1:1, 2:1.5:1, 3:2:1]	3	3	3	3	3	3	3	3	3	3	2
10	F1LV	Sharpness f1 [0:0db, 1:+1db, 2:+2db, 3:+3db]	0	0	0	0	0	0	0	0	0	0	0
11	CDSP	Sharpness at color high [0:0db, 1:+2db, 2:+4db, 3:+6db]	3	3	3	3	3	3	3	3	3	3	3
12	LTLV	LTI level [0:Off, 1:Low, 2:Mid, 3:High]	3	3	3	3	3	3	3	3	3	3	3
13	LTMD	LTI mode [0:for B&W, 1:for Black, 2:for White, 3:Inhibit]	0	0	0	0	1	0	0	0	1	0	0
14	CTLV	CTI level [0:Off, 1:Low, 2:Mid, 3:High]	0	0	0	0	3	3	0	0	3	3	0
15	CTMD	CTI mode [0:for B&W, 1:for Black, for White, 3:Inhibit]	0	0	0	0	0	0	0	0	0	0	0
16	UBOF	User bright offset [0:BRIGHT+0,..,3:BRIGHT+6,..,7:BRIGHT+14]	0	0	0	1	2	2	2	2	2	2	5
17	UCOF	User color offset [0:COLOR+0,...,3:COLOR+6,...,7:COLOR+14]	1	1	1	1	0	0	1	0	0	0	3
18	UHOF	User hue offset [0:HUE+0,1:HUE+1,2:HUE+2,3:HUE+3]	0	0	0	0	0	0	0	0	0	0	0
19	MIDE	MID Enhancement setting table [0:Soft~63:Sharp]	7	12	17	22	27	32	37	42	47	52	57
			Title:VideoProcessorServiceList(1) (CAX2150P-3)										

HA3 Video Processor (CXA2150P-3) Service List (2)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings										
			Standard Mode										
		The Following data depends on signal format and Picture Pallet	RF	CV/YC	Comp 480i	Comp 480p	Comp 1080i	Comp 720p	DTV 480i	DTV 480p	DTV 1080i	DTV 720p	Twin
0	SYSM	Band width[0:NTSC, 1:FF, 2:HD, 3:DTV]	1	1	1	1	3	3	1	1	3	3	2
1	VMLV	Not Used in HA3											
2	VMMO	VM Mode (VM_LEV) [0:Off, 1:Low, 2:Mid, 3:High]	3	3	3	3	3	3	3	3	3	3	3
3	VMCR	VM coring level[0:Off, 1:+-5%, 2:+-10%, 3:+-15%]	1	0	0	0	0	0	0	0	0	0	3
4	VMLM	VM limitter level[0:Off, 1:+-83%, 2:+-67%, 3:+-50%]	3	3	3	3	3	3	3	3	3	3	3
5	VMF0	VM f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	0	0	1	1	0	0	0
6	VMDL	VM delay[0:short, 3:long]	1	1	1	1	2	2	1	1	2	2	2
7	SHOF	Sharpness offset[0:+0step, 1:+4step, 2:+8step, 3:+12step]	0	3	3	1	3	3	3	3	3	3	0
8	SHF0	Sharpness f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	1	1	1	1	1	1	1
9	PROV	Pre-Over Ratio[0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]	3	3	3	3	3	3	3	3	3	3	2
10	F1LV	Sharpness f1[0:0db, 1:+1db, 2:+2db, 3:+3db]	0	0	0	0	0	0	0	0	0	0	0
11	CDSP	Sharpness at color high[0:0db, 1:+2db, 2:+4db, 3:+6db]	3	3	3	3	3	3	3	3	3	3	3
12	LTLV	LTI level[0:Off, 1:Low, 2:Mid, 3:High]	2	2	2	3	3	3	2	3	3	3	3
13	LTMD	LTI mode[0:for B&W, 1:for Black, 2:for White, 3:Inhibit]	1	1	1	0	1	1	1	0	1	1	1
14	CTLV	CTI level[0:Off, 1:Low, 2:Mid, 3:High]	0	0	0	0	3	3	0	0	3	3	0
15	CTMD	CTI mode[0:for B&W, 1:for Black, for White, 3:Inhibit]	0	0	0	0	0	0	0	0	0	0	0
16	UBOF	User bright offset[0:BRIGHT+0,..,3:BRIGHT+6,..,7:BRIGHT+14]	0	1	2	4	4	4	4	4	4	4	2
17	UCOF	User color offset[0:COLOR+0,...,3:COLOR+6,...,7:COLOR+14]	2	2	2	2	2	2	0	0	0	0	0
18	UHOF	User hue offset[0:HUE+0, 1:HUE+1 ,2:HUE+2, 3:HUE+3]	0	0	0	0	0	0	0	0	0	0	0
19	MIDE	MID Enhancement setting table [0:Soft ~ 63:Sharp]	5	11	16	21	26	31	36	41	46	51	56
			Title: Video Processor Service List (2) (CXA2150P-3)										

HA3 Video Processor (CXA2150P-3) Service List (3)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings										
			Movie Mode										
		The Following data depends on signal format and Picture Pallet	RF	CV/YC	Comp 480i	Comp 480p	Comp 1080i	Comp 720p	DTV 480i	DTV 480p	DTV 1080i	DTV 720p	Twin
0	SYSM	Band width[0:NTSC, 1:FF, 2:HD, 3:DTV]	1	1	1	1	3	3	1	1	3	3	2
1	VMLV	Not Used in HA3											
2	VMMO	VM Mode (VM_LEV) [0:Off, 1:Low, 2:Mid, 3:High]	3	3	3	3	3	3	3	3	3	3	3
3	VMCR	VM coring level[0:Off, 1:+-5%, 2:+-10%, 3:+-15%]	1	0	0	0	0	0	0	0	0	0	3
4	VMLM	VM limitter level[0:Off, 1:+-83%, 2:+-67%, 3:+-50%]	3	3	3	3	3	3	3	3	3	3	3
5	VMF0	VM f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	0	0	1	1	0	0	0
6	VMDL	VM delay[0:short, 3:long]	1	1	1	1	2	2	1	1	2	2	2
7	SHOF	Sharpness offset[0:+0step, 1:+4step, 2:+8step, 3:+12step]	1	1	0	1	1	1	1	1	1	1	0
8	SHF0	Sharpness f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	1	1	1	1	1	1	1
9	PROV	Pre-Over Ratio[0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]	3	3	3	3	3	3	3	3	3	3	2
10	F1LV	Sharpness f1[0:0db, 1:+1db, 2:+2db, 3:+3db]	0	0	0	0	0	0	0	0	0	0	0
11	CDSP	Sharpness at color high[0:0db, 1:+2db, 2:+4db, 3:+6db]	2	3	3	3	2	2	1	2	2	2	2
12	LTLV	LTI level[0:Off, 1:Low, 2:Mid, 3:High]	1	1	1	2	2	2	1	2	2	2	1
13	LTMD	LTI mode[0:for B&W, 1:for Black, 2:for White, 3:Inhibit]	1	1	1	1	1	1	1	1	1	1	1
14	CTLV	CTI level[0:Off, 1:Low, 2:Mid, 3:High]	0	0	0	0	2	2	0	0	2	2	0
15	CTMD	CTI mode[0:for B&W, 1:for Black, for White, 3:Inhibit]	0	0	0	0	0	0	0	0	0	0	0
16	UBOF	User bright offset[0:BRIGHT+0,..,3:BRIGHT+6,..,7:BRIGHT+14]	0	0	0	0	1	1	2	2	2	2	0
17	UCOF	User color offset[0:COLOR+0,...,3:COLOR+6,...,7:COLOR+14]	0	0	0	0	0	0	0	0	0	0	0
18	UHOF	User hue offset[0:HUE+0, 1:HUE+1 ,2:HUE+2, 3:HUE+3]	0	0	0	0	0	0	0	0	0	0	0
19	MIDE	MID Enhancement setting table [0:Soft ~ 63:Sharp]	3	10	15	20	25	30	35	40	45	50	55
			Title: Video Processor Service List (3) (CXA2150P-3)										

HA3 Video Processor (CXA2150P-3) Service List (4)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings										
			Game Mode										
		The Following data depends on signal format and Picture Pallet	RF	CV/YC	Comp 480i	Comp 480p	Comp 1080i	Comp 720p	DTV 480i	DTV 480p	DTV 1080i	DTV 720p	Twin
0	SYSM	Band width[0:NTSC, 1:FF, 2:HD, 3:DTV]	1	1	1	1	3	3	1	1	3	3	2
1	VMLV	Not Used in HA3											
2	VMMO	VM Mode (VM_LEV) [0:Off, 1:Low, 2:Mid, 3:High]	3	3	3	3	3	3	3	3	3	3	3
3	VMCR	VM coring level[0:Off, 1:+-5%, 2:+-10%, 3:+-15%]	1	0	0	0	0	0	0	0	0	0	3
4	VMLM	VM limitter level[0:Off, 1:+-83%, 2:+-67%, 3:+-50%]	3	3	3	3	3	3	3	3	3	3	3
5	VMF0	VM f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	0	0	1	1	0	0	0
6	VMDL	VM delay[0:short, 3:long]	1	1	1	1	2	2	1	1	2	2	2
7	SHOF	Sharpness offset[0:+0step, 1:+4step, 2:+8step, 3:+12step]	0	2	2	0	3	3	0	3	3	3	0
8	SHF0	Sharpness f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	1	1	1	1	1	1	1
9	PROV	Pre-Over Ratio[0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]	3	3	3	3	3	3	3	3	3	3	2
10	F1LV	Sharpness f1[0:0db, 1:+1db, 2:+2db, 3:+3db]	0	0	0	0	0	0	0	0	0	0	0
11	CDSP	Sharpness at color high[0:0db, 1:+2db, 2:+4db, 3:+6db]	3	3	3	3	3	3	3	3	3	3	3
12	LTLV	LTI level[0:Off, 1:Low, 2:Mid, 3:High]	2	2	2	3	3	3	2	3	3	3	3
13	LTMD	LTI mode[0:for B&W, 1:for Black, 2:for White, 3:Inhibit]	1	1	1	1	1	1	1	0	1	1	1
14	CTLV	CTI level[0:Off, 1:Low, 2:Mid, 3:High]	0	0	0	0	3	3	0	0	3	3	0
15	CTMD	CTI mode[0:for B&W, 1:for Black, for White, 3:Inhibit]	0	0	0	0	0	0	0	0	0	0	0
16	UBOF	User bright offset[0:BRIGHT+0,..,3:BRIGHT+6,..,7:BRIGHT+14]	0	1	2	4	4	4	4	4	4	4	2
17	UCOF	User color offset[0:COLOR+0,...,3:COLOR+6,...,7:COLOR+14]	2	2	2	2	2	2	0	0	0	0	0
18	UHOF	User hue offset[0:HUE+0, 1:HUE+1 ,2:HUE+2, 3:HUE+3]	0	0	0	0	0	0	0	0	0	0	0
19	MIDE	MID Enhancement setting table [0:Soft ~ 63:Sharp]	1	9	14	19	24	30	34	39	44	49	54
			Title: Video Processor Service List (4) (CXA2150P-3)										

SERVICE DATA LISTS

HA3 Video Processor (CXA2150P-3) Service List (5)												
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings									
			Pro Mode									
		The Following data depends on signal format and Picture Pallet	RF	CV/YC	Comp 480i	Comp 480p	Comp 1080i	Comp 720p	DTV 480i	DTV 480p	DTV 1080i	DTV 720p	Twin
0	SYSM	Band width[0:NTSC, 1:FF, 2:HD, 3:DTV]	1	1	2	2	3	3	2	2	3	3	2
1	VMLV	Not Used in HA3											
2	VMMO	VM Mode (VM_LEV) [0:Off, 1:Low, 2:Mid, 3:High]	3	3	3	3	3	3	3	3	3	3	3
3	VMCR	VM coring level[0:Off, 1:+-5%, 2:+-10%, 3:+-15%]	1	0	0	0	0	0	0	0	0	0	3
4	VMLM	VM limitter level[0:Off, 1:+-83%, 2:+-67%, 3:+-50%]	3	3	3	3	3	3	3	3	3	3	3
5	VMF0	VM f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	0	0	0	0	0	0	0	0	0
6	VMDL	VM delay[0:short, 3:long]	1	1	2	2	2	2	2	2	2	2	2
7	SHOF	Sharpness offset[0:+0step, 1:+4step, 2:+8step, 3:+12step]	1	1	0	1	2	2	0	0	2	2	2
8	SHF0	Sharpness f0[0:Low, 1:Mid, 2:High, 3:Inhibit]	1	1	1	1	1	1	1	1	1	1	1
9	PROV	Pre-Over Ratio[0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]	3	3	3	3	3	3	3	3	3	3	2
10	F1LV	Sharpness f1[0:0db, 1:+1db, 2:+2db, 3:+3db]	0	0	0	0	0	0	0	0	0	0	0
11	CDSP	Sharpness at color high[0:0db, 1:+2db, 2:+4db, 3:+6db]	0	0	0	0	0	0	0	0	0	0	0
12	LTLV	LTI level[0:Off, 1:Low, 2:Mid, 3:High]	0	0	0	0	0	0	0	0	0	0	0
13	LTMD	LTI mode[0:for B&W, 1:for Black, 2:for White, 3:Inhibit]	1	1	0	0	0	0	1	1	1	1	1
14	CTLV	CTI level[0:Off, 1:Low, 2:Mid, 3:High]	0	0	0	0	0	0	0	0	0	0	0
15	CTMD	CTI mode[0:for B&W, 1:for Black, for White, 3:Inhibit]	0	0	0	0	0	0	0	0	0	0	0
16	UBOF	User bright offset[0:BRIGHT+0,..,3:BRIGHT+6,..,7:BRIGHT+14]	0	0	1	2	1	1	2	2	2	2	2
17	UCOF	User color offset[0:COLOR+0,...,3:COLOR+6,...,7:COLOR+14]	0	0	0	0	0	0	0	0	0	0	0
18	UHOF	User hue offset[0:HUE+0, 1:HUE+1 ,2:HUE+2, 3:HUE+3]	0	0	0	0	0	0	0	0	0	0	0
19	MIDE	MID Enhancement setting table [0:Soft ~ 63:Sharp]	0	8	13	18	23	28	33	38	43	48	53
			Title: Video Processor Service List (5) (CXA2150P-3)										

SERVICE DATA LISTS

HA3Video Processor (CXA2150P-3) Service List (6)							
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings				
			Vivid	Standard	Movie	Game	Pro
20	TVVM	Initial VM level [0:VM off, 1:VM Low, 2:VM Mid, 3:VM High]	3	3	1	3	0
21	VM_H	VM High level asignment [0:weak ~ 7:strong]	7	7	6	7	6
22	VM_M	VM mid level asignment [0:weak ~ 7:strong]	5	5	4	5	4
23	VM_L	VM low level asignment [0:weak ~ 7:strong]	3	3	2	3	2
			Title: Video Processor Service List (6) (CXA2150P-3)				

HA3Video Processor (CXA2150P-4) Service List (1)							
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings				
The following data depends on the signal source			Analog			Digital	
0	SCON	Sub contrast adjustment [0:-1.2dB, 7:0dB, 15:+1.5dB]	9			4	
1	SCOL	Sub color adjustment [0:-31step, 31:+-0step, 63:+32step]	30			32	
2	SHUE	Sub HUE adjustment [0:-31step, 31:+-0step, 63:+32step]	28			28	
The following data depends on the source or display mode			Analog: w/o 1080i			TWIN	
3	SCNO	Sub contrast offset from Analog [0:-7step, 7:+-0step, 15:+8step]	7			7	
4	SCLO	Sub color offset from Analog [0:-7step, 7:+-0step, 15:+8step]	7			7	
5	SHUO	Sub HUE offset from Analog [0:-7step, 7:+-0step, 15:+8step]	7			7	
The following data depends Picture Pallet			Vivid	Standard	Movie	Game	Pro
6	UPIC	Initial Picture gain[00:-15dB, 63:0dB]	63	50	39	50	31
7	UBRT	Initial Brightness[00:-15IRE, 31:+-0IRE, 63:+15IRE]	31	31	31	31	31
8	UCOL	Initial Color[00:Color off, 31:+-0dB, 63:+6dB]	35	31	31	31	31
9	UHUE	Initial Hue[00:-33deg., 31:Center, 63:+33deg.]	31	31	31	31	31
10	USHP	Initial Sharpness[00:-10dB, 31:+2dB, 63:+8dB]	24	29	31	26	31
11	UTMP	Initial Color Temp[0:Low, 1:Mid, 2:High, 3:Inhibit]	2	1	0	1	1
12	AXIS	Color axis[0:PJ, 1:Pal/Secam, 2:Ntsc-US, 3:Ntsc-JP]	3	--	--	--	--
			Title: Video Processor Service List (1) (CXA2150P-4)				

HA3 Video Processor (CXA2150P-4) Service List (2)

No.	ITEM	NAME / DESCRIPTION		Initial Data Settings							
This data depends on the signal format and picture pallet				Vivid	Standard		Movie		Game		Pro
13	GAMM	Initial Gamma[0:Weak, 7:Strong] ; Upper 2 bit	RF/CV/YC	4	2		0		2		0
			480i	5	2		0		2		0
			480p	5	2		0		2		0
			1080i	6	2		0		2		0
			720p	6	2		0		2		0
			TWIN	5	2		0		2		0
This data depends on the Service Item "GAMM"				GAMMA (CXA2150P-4 13)							
				0	1	2	3	4	5	6	7
14	GSBO	Sub bright offset for Gamma[0:+-0step, 3:+3step]		0	0	0	0	0	0	0	0
15	GCOO	Sub color offset for Gamma[0:+-0step, 3:+3step]		0	0	0	0	0	0	0	0
16	GHUO	Sub hue offset for Gamma[0:+-0step, 3:+3step]		0	0	0	0	0	0	0	0
This data depends on the signal format and picture pallet				Vivid	Standard		Movie		Game		Pro
17	BLK	Black level [0:No Effect, 7: Max Enhance]	RF/CV/YC	7	4		0		4		0
			480i	7	4		0		4		1
			480p	7	4		0		4		0
			1080i	7	4		0		4		0
			720p	7	4		0		4		0
			TWIN	7	4		0		4		0
				Title: Video Processor Service List (2) (CXA2150P-4)							

SERVICE DATA LISTS

HA3 Video Processor (CXA2150P-4) Service List (3)											
No.	ITEM	NAME/DESCRIPTION	Initial Data Settings								
This data depends on the Service Item "BLK"			BLK (CXA2150P-417)								
			0	1	2	3	4	5	6	7	
18	DCTR	DCtransferratio[0:103%,1:100%,2:93%,3:85%]	1	1	1	1	2	2	2	3	
19	DPIC	Autopedestallevel[0:Off,1:30IREkneedown,2:35,3:40]	0	0	0	0	1	2	1	2	
20	DSBO	SubbrightoffsetforUBLK[0:-7step,7:+-0step,15:+8step]	7	7	7	7	7	7	7	7	
21	ABLM	ABLmode[0:PIC,1:PIC&BRT-min,2:P&B-mid,3:P&B-max]	0	1	0	0	0	0	0	1	
			Others		Small Pic						
22	ABLT	CurrentdetectionVth[0:Vth0.8V,15:Vth1.9V]	0		0						
23	ABLC	ABLlevel [0:Max ABL, 255:Min ABL]	0		0						
24	SPOF	Pictureoffsetforsmallareapicture[0:-0step,31:-(UPIC/63)x31]	0		--						
This data depends on the signal format			RF/CV/YC		480i	480p	1080i	720p	TWIN		
25	PIOF	Picture offset level	0		0	0	0	0	0		
26	BROF	Brightness offset level	0		0	0	0	0	0		
25	PICL	Maximum Picture Level	53		--	--	--	--	--		
26	BRTL	Maximum Brightness Level	47		--	--	--	--	--		
			Title:VideoProcessorServiceList(3) (CXA2150P-4)								

Small Picture = Normal, Twin, Freeze

HA3 Sync Selector (CXA2151) Service List

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings		
The following data depends on the signal format			**1080i/720p**	**480p/480i**	
0	**MTRX**	Matrix[0:Through, 1:YPbPr[J], 2:YPbPr[U], 3:RGB]	1	0	
1	**GAIN**	Output gain for Video[0:6db+-2db, 1:0db, 2/3:Mute]	0		
The following data depends on the signal input			**Video5**	**Video6**	**Chroma Dec.**
2	**FIXS**	SYNC type[0:Auto detect, 1:HS/VS, 2:CS, 3:SYNC on Y(G)]	0	0	0
The following data depends on the signal format			**Analog 1080i**	**Others**	
3	**CBGN**	Output gain for Cb[0:-2db, 7:0db, 15:+2db]	7	7	
4	**CRGN**	Output gain for Cr[0:-2db, 7:0db, 15:+2db]	8	8	
5	**YGN**	Output gain for Y[0:-2db, 7:0db, 15:+2db]	8	8	
6	**VTC**	V SYNC sep. time constant[0:6usec, 3:18usec]	0	--	
The following data depends on the signal format			**1080i/720p**	**480p/480i**	
7	**HTC**	H SYNC sep. time constant[0:for HD, 1:for 15.75kHz]	0	1	
8	**HWID**	H SYNC width[0:Through, 1:1.4usec, 2:1.7usec, 3:3.7usec]	1	--	
9	**HSEP**	SYNC sep. type[0:Voltage slice, 1:Charge/Dis-charge]	1	--	
The following data depends on the signal format			**1080i**	**720p/480p/480i**	
10	**HMSK**	H SYNC MASK during V SYNC period[0:On, 1:Off]	0	1	
The following data depends on the signal input			**Video5**	**Video6**	**Chroma Dec.**
11	**FRGB**	Matrix=3:RGB [0:Micro control, 1:Forced RGB]	0	0	0

This data can't be memorized, it is controlled by M16C micro

This data can't be memorized, it is controlled by M16C micro

This data can't be memorized, it is controlled by M16C micro

Title: Sync Selector Service List (CXA2151)

HA3 MID Enhancement (CXD9509) Service List (1)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings							
0	POP	Service data effect (0 - 63)	Same as "MIDE" (CXA2150P-3 19)							
The following data depends on the "POP" data (MID-5 0) →			0	1	2	3	4	5	6	7
1	MHLY	main h LPF y coefficient code (0 - 3)	1	3	1	1	1	1	1	1
2	MHLC	main h LPF c coefficient code (0 - 3)	3	3	3	3	3	3	3	3
3	MVLY	main v LPF y coefficient code (0 - 3)	0	1	0	0	0	0	0	0
4	MVLC	main v LPF c coefficient code (0 - 3)	0	1	0	0	0	0	0	0
5	MHYR	main h enhance y coreing code (0 - 3)	1	3	1	1	2	3	3	3
6	MHYL	main h enhance y cliping code (0 - 3)	1	2	1	1	1	2	2	2
7	MHYE	main h enhance y level code (0 - 7)	5	7	5	5	6	7	7	7
8	MHYO	main h enhance y coefficient code (0 - 1)	1	1	1	1	1	1	1	1
9	MHCR	main h enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0
10	MHCL	main h enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0
11	MHCE	main h enhance c level code (0 - 7)	0	0	0	0	0	0	0	0
12	MHCO	main h enhance c coefficient code (0 - 1)	0	0	0	0	0	0	0	0
13	MVYR	main v enhance y coreing code (0 - 3)	0	2	0	0	1	2	2	2
14	MVYL	main v enhance y cliping code (0 - 3)	0	1	0	0	1	1	1	1
15	MVYE	main v enhance y level code (0 - 7)	0	3	0	0	1	3	3	3
16	MVCR	main v enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0
17	MVCL	main v enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0
18	MVCE	main v enhance c level code (0 - 7)	0	0	0	0	0	0	0	0
			Pro	Game		Movie		Stand.		Vivid
		Applicable palllet and format:	Analog Tuner							
			Title: MID Enhancement Service List (1) (CXD9509)							

HA3 MID Enhancement (CXD9509) Service List (2)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings									
The following data depends on the "POP" data (MID-5 0) →			8	9	10	11	12	13	14	15	16	17
1	MHLY	main h LPF y coefficient code (0 - 3)	1	3	1	1	1	1	3	1	1	1
2	MHLC	main h LPF c coefficient code (0 - 3)	3	3	3	3	3	3	3	3	3	3
3	MVLY	main v LPF y coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
4	MVLC	main v LPF c coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
5	MHYR	main h enhance y coreing code (0 - 3)	0	0	0	2	1	0	0	0	1	1
6	MHYL	main h enhance y cliping code (0 - 3)	0	0	1	2	2	0	0	0	2	2
7	MHYE	main h enhance y level code (0 - 7)	0	0	2	4	7	0	0	0	2	7
8	MHYO	main h enhance y coefficient code (0 - 1)	0	0	1	1	1	1	0	1	1	1
9	MHCR	main h enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0	0	0
10	MHCL	main h enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0	0	0
11	MHCE	main h enhance c level code (0 - 7)	0	0	0	0	0	0	0	0	0	0
12	MHCO	main h enhance c coefficient code (0 - 1)	0	0	0	0	0	0	0	0	0	0
13	MVYR	main v enhance y coreing code (0 - 3)	0	0	1	1	1	0	0	0	1	2
14	MVYL	main v enhance y cliping code (0 - 3)	0	0	1	1	1	0	0	0	1	1
15	MVYE	main v enhance y level code (0 - 7)	0	0	3	3	3	0	0	0	3	5
16	MVCR	main v enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0	0	0
17	MVCL	main v enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0	0	0
18	MVCE	main v enhance c level code (0 - 7)	0	0	0	0	0	0	0	0	0	0
			Pro	Game	Movie	Stand.	Vivid	Pro	Game	Movie	Stand.	Vivid
			Video1-4					Video 5/6 480i				
			Title: MID Enhancement Service List (2) (CXD9509)									

SERVICE DATA LISTS

HA3 MID Enhancement (CXD9509) Service List (3)												
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings									
The following data depends on the "POP" data (MID-5 0) →			18	19	20	21	22	23	24	25	26	27
1	MHLY	main h LPF y coefficient code (0 - 3)	1	3	1	1	1	0	3	0	0	0
2	MHLC	main h LPF c coefficient code (0 - 3)	3	3	3	3	3	0	3	0	0	0
3	MVLY	main v LPF y coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
4	MVLC	main v LPF c coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
5	MHYR	main h enhance y coreing code (0 - 3)	1	0	1	1	1	0	0	0	0	0
6	MHYL	main h enhance y cliping code (0 - 3)	1	0	1	2	2	1	0	1	1	1
7	MHYE	main h enhance y level code (0 - 7)	4	0	7	2	7	2	0	4	7	7
8	MHYO	main h enhance y coefficient code (0 - 1)	1	0	1	1	1	0	0	0	0	0
9	MHCR	main h enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0	1	1
10	MHCL	main h enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0	1	1
11	MHCE	main h enhance c level code (0 - 7)	0	0	0	0	0	0	0	0	4	4
12	MHCO	main h enhance c coefficient code (0 - 1)	0	0	0	0	0	0	0	0	1	1
13	MVYR	main v enhance y coreing code (0 - 3)	0	0	0	1	1	0	0	0	0	0
14	MVYL	main v enhance y cliping code (0 - 3)	0	0	1	1	1	0	0	0	1	1
15	MVYE	main v enhance y level code (0 - 7)	0	0	3	3	5	0	0	0	4	4
16	MVCR	main v enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0	1	1
17	MVCL	main v enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0	1	1
18	MVCE	main v enhance c level code (0 - 7)	0	0	0	0	0	0	0	0	4	4
			Pro	Game	Movie	Stand.	Vivid	Pro	Game	Movie	Stand.	Vivid
			Video 5/6 480p					Video 5/6 1080i				
			Title: MID Enhancement Service List (3) (CXD9509)									

HA3 MID Enhancement (CXD9509) Service List (4)												
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings									
The following data depends on the "POP" data (MID-5 0) →			28	29	30	31	32	33	34	35	36	37
1	MHLY	main h LPF y coefficient code (0 - 3)	0	3	0	0	0	1	3	1	1	1
2	MHLC	main h LPF c coefficient code (0 - 3)	0	3	0	0	0	3	3	3	3	3
3	MVLY	main v LPF y coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
4	MVLC	main v LPF c coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
5	MHYR	main h enhance y coreing code (0 - 3)	0	0	0	0	0	0	0	1	1	1
6	MHYL	main h enhance y cliping code (0 - 3)	1	0	1	1	1	0	0	1	2	2
7	MHYE	main h enhance y level code (0 - 7)	2	0	4	7	7	0	0	2	2	7
8	MHYO	main h enhance y coefficient code (0 - 1)	0	0	0	0	0	1	0	1	1	1
9	MHCR	main h enhance c coreing code (0 - 3)	0	0	0	1	1	0	0	0	0	0
10	MHCL	main h enhance c cliping code (0 - 3)	0	0	0	1	1	0	0	0	0	0
11	MHCE	main h enhance c level code (0 - 7)	0	0	0	4	4	0	0	0	0	0
12	MHCO	main h enhance c coefficient code (0 - 1)	0	0	0	1	1	0	0	0	0	0
13	MVYR	main v enhance y coreing code (0 - 3)	0	0	0	0	0	0	0	1	1	2
14	MVYL	main v enhance y cliping code (0 - 3)	0	0	0	1	1	0	0	1	1	1
15	MVYE	main v enhance y level code (0 - 7)	0	0	0	4	4	0	0	5	7	5
16	MVCR	main v enhance c coreing code (0 - 3)	0	0	0	1	1	0	0	0	0	0
17	MVCL	main v enhance c cliping code (0 - 3)	0	0	0	1	1	0	0	0	0	0
18	MVCE	main v enhance c level code (0 - 7)	0	0	0	4	4	0	0	0	0	0
			Pro	Game	Movie	Stand.	Vivid	Pro	Game	Movie	Stand.	Vivid
			Video 5/6 720p					Digital 480i				
			Title: MID Enhancement Service List (4) (CXD9509)									

HA3 MID Enhancement (CXD9509) Service List (5)												
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings									
The following data depends on the "POP" data (MID-5 0) →			38	39	40	41	42	43	44	45	46	47
1	MHLY	main h LPF y coefficient code (0 - 3)	1	3	1	1	1	0	3	0	0	0
2	MHLC	main h LPF c coefficient code (0 - 3)	3	3	3	3	3	0	3	0	0	0
3	MVLY	main v LPF y coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
4	MVLC	main v LPF c coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
5	MHYR	main h enhance y coreing code (0 - 3)	1	0	1	1	1	0	0	0	0	0
6	MHYL	main h enhance y cliping code (0 - 3)	1	0	1	2	2	1	0	1	1	1
7	MHYE	main h enhance y level code (0 - 7)	7	0	3	2	7	2	0	4	7	7
8	MHYO	main h enhance y coefficient code (0 - 1)	1	0	1	1	1	0	0	0	0	0
9	MHCR	main h enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0	1	1
10	MHCL	main h enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0	1	1
11	MHCE	main h enhance c level code (0 - 7)	0	0	0	0	0	0	0	0	4	4
12	MHCO	main h enhance c coefficient code (0 - 1)	0	0	0	0	0	0	0	0	1	1
13	MVYR	main v enhance y coreing code (0 - 3)	0	0	1	1	1	0	0	0	0	0
14	MVYL	main v enhance y cliping code (0 - 3)	0	0	1	1	1	0	0	1	1	1
15	MVYE	main v enhance y level code (0 - 7)	0	0	4	7	5	0	0	4	4	4
16	MVCR	main v enhance c coreing code (0 - 3)	0	0	0	0	0	0	0	0	1	1
17	MVCL	main v enhance c cliping code (0 - 3)	0	0	0	0	0	0	0	0	1	1
18	MVCE	main v enhance c level code (0 - 7)	0	0	0	0	0	0	0	0	4	4
			Pro	Game	Movie	Stand.	Vivid	Pro	Game	Movie	Stand.	Vivid
			Digital 480p					Digital 1080i				
			Title: MID Enhancement Service List (5) (CXD9509)									

HA3 MID Enhancement (CXD9509) Service List (6)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings									
The following data depends on the "POP" data (MID-5 0) →			48	49	50	51	52	53	54	55	56	57
1	MHLY	main h LPF y coefficient code (0 - 3)	0	3	0	0	0	0	3	0	0	0
2	MHLC	main h LPF c coefficient code (0 - 3)	0	3	0	0	0	0	3	0	0	0
3	MVLY	main v LPF y coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
4	MVLC	main v LPF c coefficient code (0 - 3)	0	1	0	0	0	0	1	0	0	0
5	MHYR	main h enhance y coreing code (0 - 3)	0	0	0	0	0	0	0	0	0	0
6	MHYL	main h enhance y cliping code (0 - 3)	1	0	1	1	1	0	0	0	0	0
7	MHYE	main h enhance y level code (0 - 7)	2	0	4	7	7	0	0	0	0	0
8	MHYO	main h enhance y coefficient code (0 - 1)	0	0	0	0	0	0	0	0	0	0
9	MHCR	main h enhance c coreing code (0 - 3)	0	0	0	1	1	0	0	0	0	0
10	MHCL	main h enhance c cliping code (0 - 3)	0	0	0	1	1	0	0	0	0	0
11	MHCE	main h enhance c level code (0 - 7)	0	0	0	4	4	0	0	0	0	0
12	MHCO	main h enhance c coefficient code (0 - 1)	0	0	0	1	1	0	0	0	0	0
13	MVYR	main v enhance y coreing code (0 - 3)	0	0	0	0	0	0	0	0	0	0
14	MVYL	main v enhance y cliping code (0 - 3)	0	0	1	1	1	0	0	0	0	0
15	MVYE	main v enhance y level code (0 - 7)	0	0	4	4	4	0	0	0	0	0
16	MVCR	main v enhance c coreing code (0 - 3)	0	0	0	1	1	0	0	0	0	0
17	MVCL	main v enhance c cliping code (0 - 3)	0	0	0	1	1	0	0	0	0	0
18	MVCE	main v enhance c level code (0 - 7)	0	0	0	4	4	0	0	0	0	0
			Pro	Game	Movie	Stand..	Vivid	Pro	Game	Movie	Stand..	Vivid
			Digital 720p					Twin Mode				
			Title: MID Enhancement Service List (6) (CXD9509)									

SERVICE DATA LISTS

HA3 MID Enhancement (CXD9509) Service List (7)			
No.	ITEM	NAME / DESCRIPTION	Initial Data Settings
The following data depends on the "POP" data (MID-5 0) →			0-63 (same data)
1	SHLY	sub h LPF y coefficient code (0 - 7)	0
2	SHLC	sub h LPF c coefficient code (0 - 7)	0
3	SVLY	sub v LPF y coefficient code (0 - 7)	0
4	SVLC	sub v LPF c coefficient code (0 - 7)	0
5	SHYR	sub h enhance y coreing code (0 - 3)	0
6	SHYL	sub h enhance y cliping code (0 - 3)	0
7	SHYE	sub h enhance y level code (0 - 7)	0
8	SHYO	sub h enhance y coefficient code (0 - 1)	0
9	SHCR	sub h enhance c coreing code (0 - 3)	0
10	SHCL	sub h enhance c cliping code (0 - 3)	0
11	SHCE	sub h enhance c level code (0 - 7)	0
12	SHCO	sub h enhance c coefficient code (0 - 1)	0
13	SVYR	sub v enhance y coreing code (0 - 3)	0
14	SVYL	sub v enhance y cliping code (0 - 3)	0
15	SVYE	sub v enhance y level code (0 - 7)	0
16	SVCR	sub v enhance c coreing code (0 - 3)	0
17	SVCL	sub v enhance c cliping code (0 - 3)	0
18	SVCE	sub v enhance c level code (0 - 7)	0
		Title: MID Enhancement Service List (7) (CXD9509)	

HA3 SNNR Service List (1)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings						
0	**SNNR**	SNNR Data Label							
1	**SNFX**	0:SNNR is controlled by Micro; 1:SNNR controlled by Service	0						
	The following Data Sets the Threshold for SNNR		A	B	C	D	E	F	G
2	**WSLT**	Threshold of SNNR	15	31	45	63	85	110	127

Data is controlled by M16C Micro

Normally 0

To choose the SNNR Level the following equations apply

0 <= WSL < WSLT(A)	Select SNNR(0)
WSLT(A) <= WSL < WSLT(B)	Select SNNR(1)
WSLT(B) <= WSL < WSLT(C)	Select SNNR(2)
WSLT(C) <= WSL < WSLT(D)	Select SNNR(3)
WSLT(D) <= WSL < WSLT(E)	Select SNNR(4)
WSLT(E) <= WSL < WSLT(F)	Select SNNR(5)
WSLT(F) <= WSL < WSLT(G)	Select SNNR(6)
WSLT(G) <= WSL < 255	Select SNNR(7)

HA3 SNNR Service List (2)

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings							
	SNNR Offset Data		0	1	2	3	4	5	6	7
3	**CPFG**	uPD64082:YPFG (-Offset Data)	0	0	1	1	2	2	2	3
4	**CPFT**	uPD64082:YPFT (-Offset Data)	0	0	0	0	0	0	0	0
5	**CCOR**	uPD64082:YHCOR (-Offset Data)	0	0	1	1	1	1	1	1
6	**CHCG**	uPD64082:YHCGAIN (-Offset Data)	1	1	1	1	1	1	1	1
7	**CAPG**	uPD64082:YAPGAIN (-Offset Data)	0	0	0	0	0	0	0	0
8	**3SHP**	CXA2103-M:SHAP (-Offset Data)	0	0	1	1	2	2	2	3
9	**5SHP**	CXA2150P-4:USHP (-Offset Data)	0	0	1	1	3	3	3	4
10	**5YF1**	CXA2150P-3:F1LV (-Offset Data)	0	0	1	1	2	2	2	3
11	**5CDS**	CXA2150P-3:CDSP (-Offset Data)	0	0	0	0	0	0	0	0
12	**5LTI**	CXA2150P-3:LTLV (-Offset Data)	0	0	0	0	0	0	0	0
13	**5CTI**	CXA2150P-3:CTLV (-Offset Data)	0	0	0	0	0	0	0	0
14	**5VMC**	CXA2150P-3:VMCR (+Offset Data)	0	0	1	1	2	2	2	3
15	**MIDD**	CXA2150P-3:MIDE offset for SN (-Offset Data)	0	0	1	1	2	2	2	3

SNNR (0) uses no Offset Data
SNNR (1) uses Offset Data(0)
SNNR (2) uses Offset Data(1)
SNNR (3) uses Offset Data(2)
SNNR (4) uses Offset Data(3)
SNNR (5) uses Offset Data(4)
SNNR (6) uses Offset Data(5)
SNNR (7) uses Offset Data(6)

HA3 A/D Convertor (CXA3506) Service List

No.	ITEM	NAME / DESCRIPTION	Initial Data Settings	
			1080i/720p/480p	480i (sub)
0	**MCON**	main contrast (0 - 255)	**64**	**64**
1	**SCOR**	sub contrast Y (0-255)	**108**	**113**
2	**SCOG**	sub contrast Cb (0-255)	**155**	**150**
3	**SCOB**	sub contrast Cr (0-255)	**153**	**153**
4	**RGB**	RGB out select (0 - 1)	**0**	**0**
			Title: CXA3506 Service List	

SERVICE DATA LISTS

HA3 Deflection (CXA2150D-1) Service List								
No.	ITEM	NAME / DESCRIPTION		Initial Data Settings				
		DESIGN PRESET DATA	FACTORY ADJUSTMENT DATA	WIDE ZOOM	ZOOM	FULL/INDEX		NORMAL
				960i	960I	960I	1080I	960I
0	VPOS	VERTICAL POSITION		31				
1	VSIZ	VERTICAL SIZE		22				
2	**VSIZ0**	**V SIZE OFF SET (PJ only)**		0				
3	VLIN	VERTICAL LINEARITY		7	7			
4	VSCO	VERTICAL S CORRECTION		10	7			
5	VCEN	VERTICAL CENTERING		31				
6	VPIN	VERTICAL PIN		15				15
7	NSCO	ROTATION		7				
8	HTPZ	HORIZONTAL TRAPEZOID		15				
9	ZOOM	ZOOM SW		1	1	0		
10	APSW	ASPECT SWITCH		1	1	1	0	1
11	ASPT	ASPECT RATIO		24	48	0	3	0
12	SCRL	VERTICAL SCROLL		31	31	31	31	31
13	UVLN	UPPER VERTICAL LINEARITY		4	0	0		0
14	LVLN	LOWER VERTICAL LINEARITY		4	0	0		0
				Title: Deflection Service List (CXA2150D-1)				

HA3 Deflection (CXA2150D-2) Service List

No.	ITEM	NAME / DESCRIPTION		Initial Data Settings				
		DESIGN PRESET DATA	FACTORY ADJUSTMENT DATA	WIDE ZOOM	ZOOM	FULL/INDEX		NORMAL
				960i	960I	960I	1080I	960I
0	HCNT	HORIZONTAL CENTERING		31				
1	HPOS	HORIZONTAL POSITION		31				
2	HSIZ	HORIZONTAL SIZE		49	44			
3	SLIN	HORIZONTAL S CORRECTION		10	6			
4	MPIN	HORIZONTAL MIDDLE PIN		10	7			
5	PIN	HORIZONTAL PIN		40	31			
6	**PIN0**	**PIN OFF SET (PJ only)**		0				
7	UCP	UPPER CORNER PIN		31	31			
8	LCP	LOWER CORNER PIN		31	31			
9	UXCG	UPPER EXTRA CORNER PIN GAIN		1	1			
10	LXCG	LOWER EXTRA CORNER PIN GAIN		1	1			
11	UXCP	UPPER EXTRA CORNER PIN POSITION		2	2			
12	LXCP	LOWER EXTRA CORNER PIN POSITION		2	2			
13	XCPP	EXTRA CORNER PIN POLARITY		0	0			
14	PPHA	PIN PHASE		31	31			
15	VANG	AFC ANGLE		31				
16	LANG	LINEARITY ANGLE		31				
17	VBOW	AFC BOW		31				
18	LBOW	LINEARITY BOW		31				
19	CPY1	COPY FUNCTION 1 Refer to *1		0				
				Title: Deflection Service List (CXA2150D-2)				

HA3 Deflection (CXA2150D-3) Service List								
No.	ITEM	NAME / DESCRIPTION		Initial Data Settings				
		DESIGN PRESET DATA	FACTORY ADJUSTMENT DATA	WIDE ZOOM	ZOOM	FULL/INDEX		NORMAL
				960i	960I	960I	1080I	960I
0	HBLK	HORIZONTAL BLANKING SWITCH		1				
1	LBLK	LEFT BLANKING		48				
2	RBLK	RIGHT BLANKING		30				
3	VBLK	VERTICAL BLANKING SWITCH		0	0	1		1
4	TBLK	TOP BLANKING		7	7	3	4	3
5	BBLK	BOTTOM BLANKING		7	7	4	4	4
6	VCMP	VERTICAL COMPENSATION		0	0	0	0	0
7	HCMP	HORIZONTAL COMPENSATION		0	0	0	0	0
8	ACMP	AFC COMPENSATION		0	0	0		0
9	PCMP	PIN COMPENSATION		0	0	0		0
10	AFCM	AFC LOOP GAIN		3			2	
11	VFRQ	VERTICAL FREQUENCY		1				
12	VON	VERTICAL DRIVE ON		1				
13	JUMP	REFERENCE PULSE JUMP SWITCH		0				0
14	VDJP	VERTICAL DRIVE JUMP SWITCH		1	1	0	1	0
15	VDST	VERTICAL DRIVE START SWITCH		0	0	0	1	0
16	EWDC	PIN DC LEVEL SHIFT				0		0
17	AKBT	AKB TIMING		15	15	15	9	15
				Title: Deflection Service List (CXA2150D-3)				

SERVICE DATA LISTS

HA3 DF/DQP (CXA2026) Service List								
No.	ITEM	NAME / DESCRIPTION		Initial Data Settings				
		DESIGN PRESET DATA	FACTORY ADJUSTMENT DATA	WIDE ZOOM	ZOOM	FULL/INDEX		NORMAL
				960i	960I	960I	1080I	960I
0	DFON	DF ON/OFF SWITCH		0				
1	DQP	DQP PHASE		23				
2	DF	DF PHASE		119				
3	DQPD	DQP DC LEVEL		1				
4	QPDV	DQP DC LEVEL VERTICAL MODULATION		44				
5	DVS	DQP DC LEVEL TILT		0				
6	QPDY	DQP DC LEVEL AT TOP & BOTTOM AREA		12				
7	DQPA	DQP AMPLITUDE		7				
8	QPAV	DQP AMPLITUDE VERTICAL MODULATION		44				
9	AVS	DQP AMPLITUDE TILT		3				
10	NORM			0				
11	CPY3	COPY FUNCTION 2 Refer to *1		0				
12	200V	200V REGULATOR ADJUSTMENT		31				
				Title: DF/DQP Service List (CXA2026)				

SERVICE DATA LISTS

HA3 Dynamic Convergence (CXA8070) Service List								
No.	ITEM	NAME / DESCRIPTION		Initial Data Settings				
		DESIGN PRESET DATA	FACTORY ADJUSTMENT DATA	WIDE ZOOM	ZOOM	FULL/INDEX		NORMAL
				960i	960I	960I	1080I	960I
0	SBHS	DC SHIFT		31				
1	YBWU	UPPER YBOW		31				
2	YBWL	LOWER YBOW		31				
3	RSAP	RIGHT H AMP		31				
4	RUBW	RIGHT UPPER BOW		31				
5	RLBW	RIGHT LOWER BOW		31				
6	LSAP	LEFT H AMP		31				
7	LUBW	LEFT UPPER BOW		31				
8	LLBW	LEFT LOWER BOW		31				
9	CADJ	OFFSET ADJ		48				
10	CPY2	COPY FUNCTION 2 Refer to *1		0				
				Title: Dynamic Convergence Service List (CXA8070)				

10-5 FEATURE ID MAP

MODEL	ID-0	ID-1	ID-2	ID-3	ID-4	ID-5	ID-6	ID-7
KD-34XBR2	89	255	111	106	203	177	62	24

SECTION 11: FIRMWARE UPGRADES

11-1. OVERVIEW

From time to time the KD-34XBR2 may require an upgrade to its firmware.

The Q-box inside the set allows for upgrading the firmware via a Memory Stick® slot. At such times that upgrades are required, pre-programmed Memory Sticks will be made available to the service network. Be sure to check the Sony Service Company's web site to see if any upgrades are available for correcting the problems you are trying to resolve.

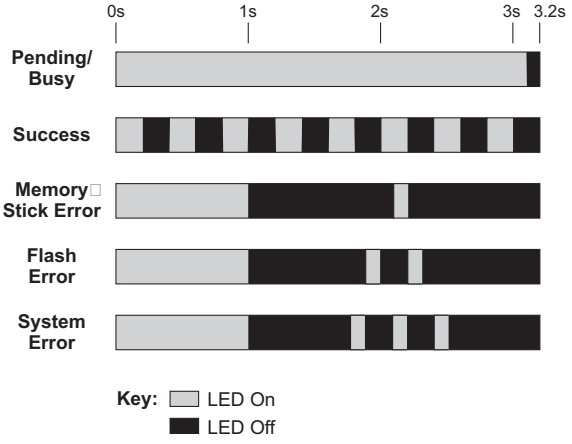
DISCLAIMER:

Any use of the Memory Stick port for any reason other than a Sony authorized upgrade will void the product warranty. All related repair charges will be the responsibility of the customer.

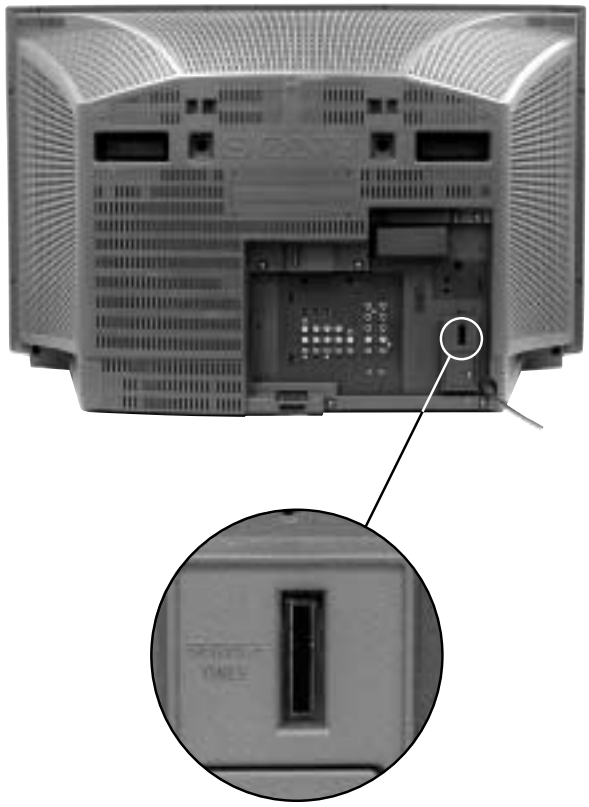
11-2. TRANSFERRING THE NEW FIRMWARE FROM THE MEMORY STICK TO THE Q-BOX.

1. Turn the TV on.
2. Insert the Memory Stick containing the new firmware into the Memory Stick slot on the back of the set.
3. If the inserted Memory Stick is the correct type, and its files are correct for the KD-34XBR2 and are not damaged (corrupted), the upgrade process will begin automatically. The screen will display "Memory Upgrade Mode" for 3 seconds, after which the screen will go black until the upgrade is completed.

   NOTE: The user controls are inoperative while this upgrade is in progress.
4. A status LED is located above the Memory Stick slot. This LED will flash in several distinct patterns dependent upon the status of the upgrade, as follows:



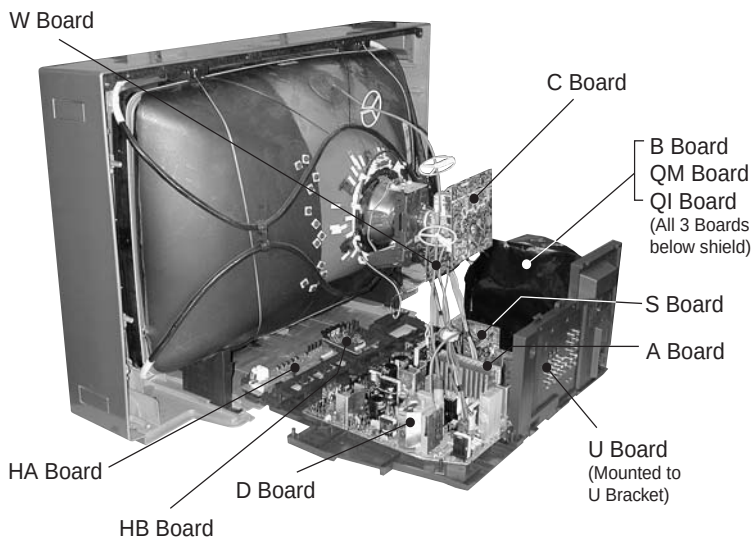
5. When the status LED flashes the "Success" pattern shown above, the upgrade has completed successfully. Remove the Memory Stick and the set will return to the operating state it was in before the upgrade began.
6. If the status LED flashes the "Flash Error" (flash memory) pattern or the "System Error" pattern shown above, remove the Memory Stick and start over again from step 1.
7. If the status LED flashes the "Memory Stick Error" pattern you must obtain a new Memory Stick and start over from step 1.
8. If the status LED flashes the "System Error" pattern the Q-Box needs repair and start over from step 1.



Memory Stick Input Location

SECTION 12: DIAGRAMS

12-1. CIRCUIT BOARDS LOCATION



The components identified by shading and ⚠ symbol are critical for safety. Replace only with part number specified.

The symbol ▬ indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifies par un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Le symbole ▬ indique une fusible a action rapide. Doit etre remplace par une fusible de meme yaleur, comme maque.

12-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. K = 1000, M = 1000K.

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm

Rating electrical power : $^1/_4$ W

$^1/_4$ W in resistance, $^1/_{10}$ W and $^1/_8$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

△ : internal component.

▭ : panel designation and adjustment for repair.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10MΩ digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibillity.

▬ ▬ ▬ : B+line.

▬ ▬ ▭V : B-line. (Actual measured value may be different).

⇨ : signal path. (RF)

Circled numbers are waveform references.

The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used (Refer to Safety Related Adjustments on page 33).

When replacing components identified by ◪, make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by ⋈ and repeat the adjustment until the specified value is achieved.

When replacing the parts listed in the table below, it is important to perform the related adjustments.

Part Replaced (◪)	Adjustment (⋈)
D BOARD: D8004, D8014, IC6503, IC8001, IC8003, IC8004, R6590, R8016, R8021, R8028, R8041, R8042, R8044, R8072, R8073, R8074, R8077, R8078, R8080, R8081, R8082, R8091, R8095	D BOARD: RV8001, RV8002

REFERENCE INFORMATION

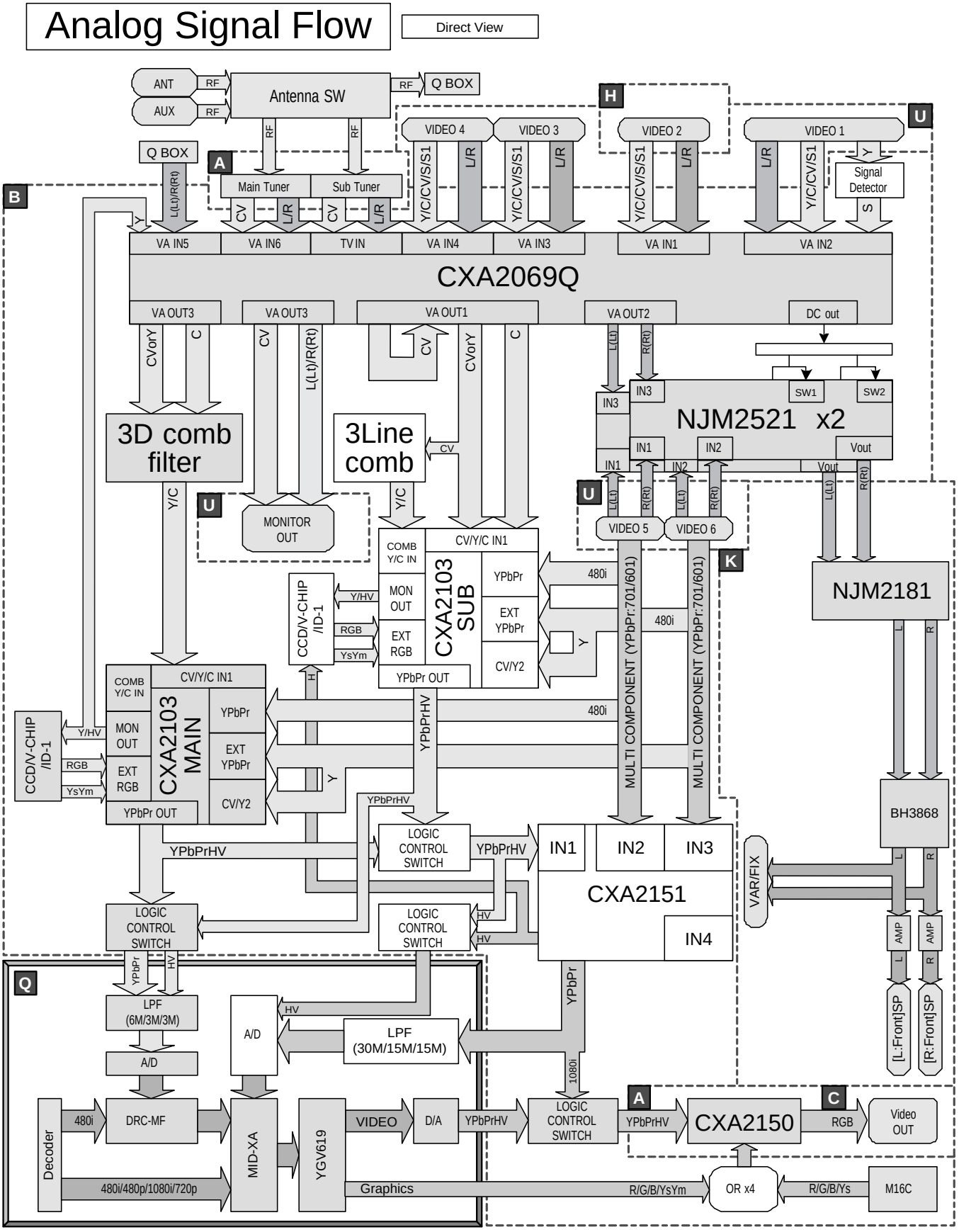
RESISTOR
- **: RN METAL FILM**
- **: RC SOLID**
- **: FPRD NONFLAMMABLE CARBON**
- **: FUSE NONFLAMMABLE FUSIBLE**
- **: RW NONFLAMMABLE WIREWOUND**
- **: RS NONFLAMMABLE METAL OXIDE**
- **: RB NONFLAMMABLE CEMENT**
- **: ※ ADJUSTMENT RESISTOR**

CAPACITOR
- **: TA TANTALUM**
- **: PS STYROL**
- **: PP POLYPROPYLENE**
- **: PT MYLAR**
- **: MPS METALIZED POLYESTER**
- **: MPP METALIZED POLYPROPYLENE**
- **: ALB BIPOLAR**
- **: ALT HIGH TEMPERATURE**
- **: ALR HIGH RIPPLE**

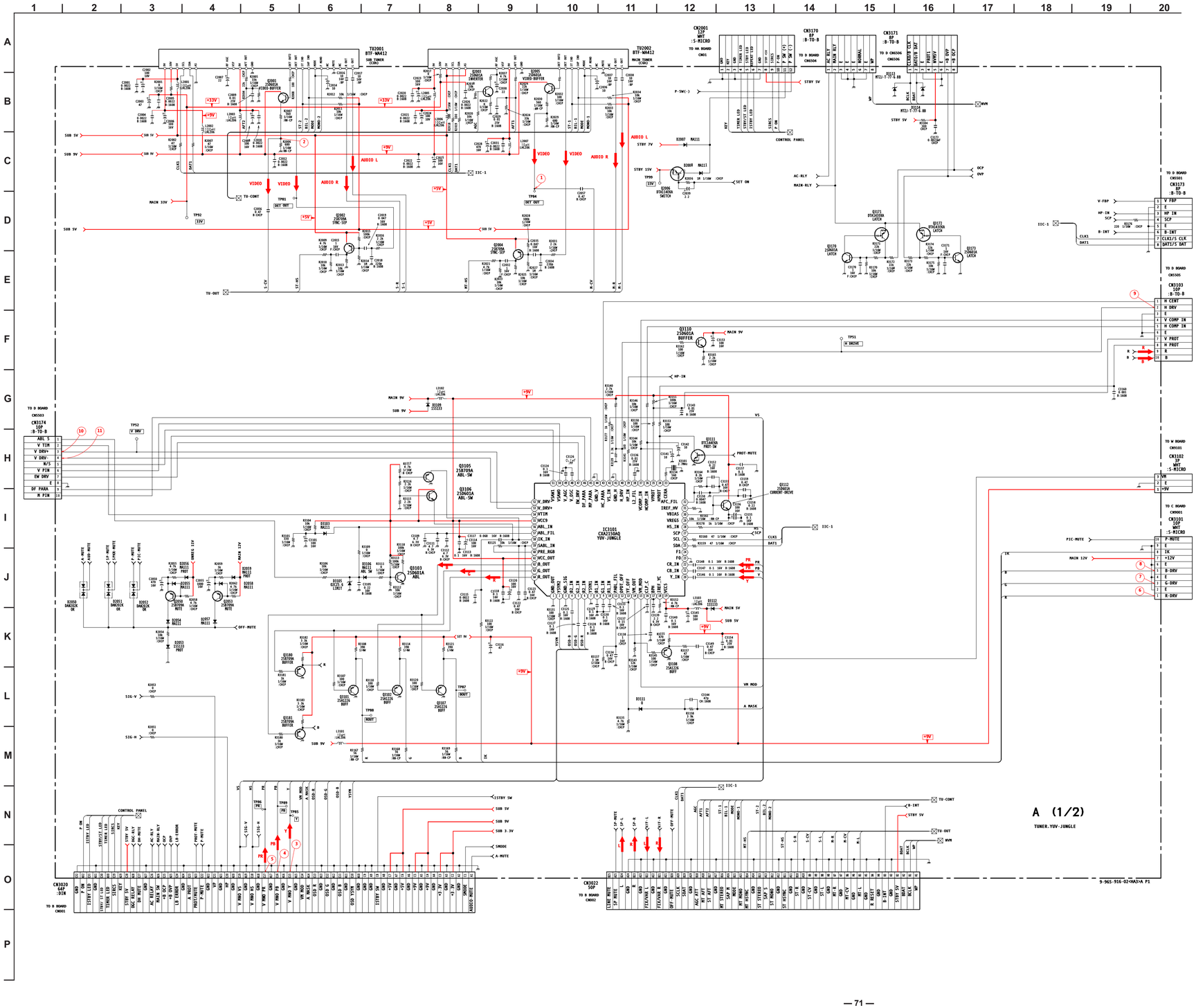
COIL
- **: LF-8L MICRO INDUCTOR**

12-3. BLOCK DIAGRAM & SCHEMATICS

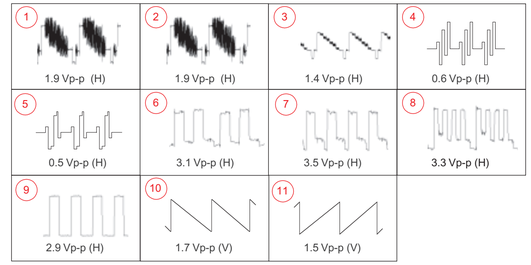
BLOCK DIAGRAM



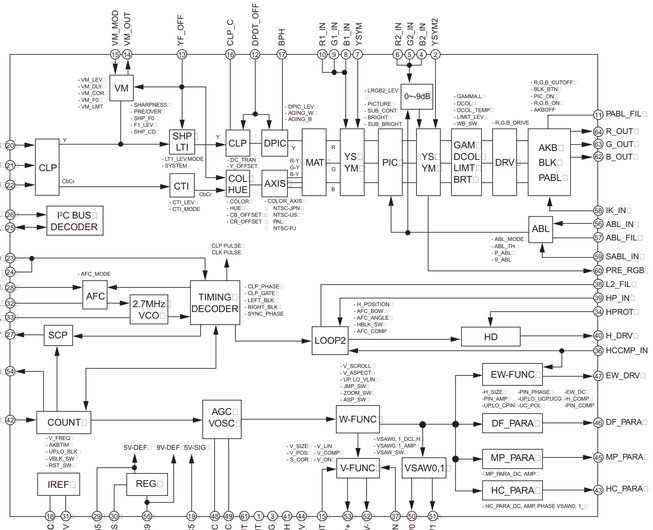
A BOARD SCHEMATIC DIAGRAM (1 OF 2)



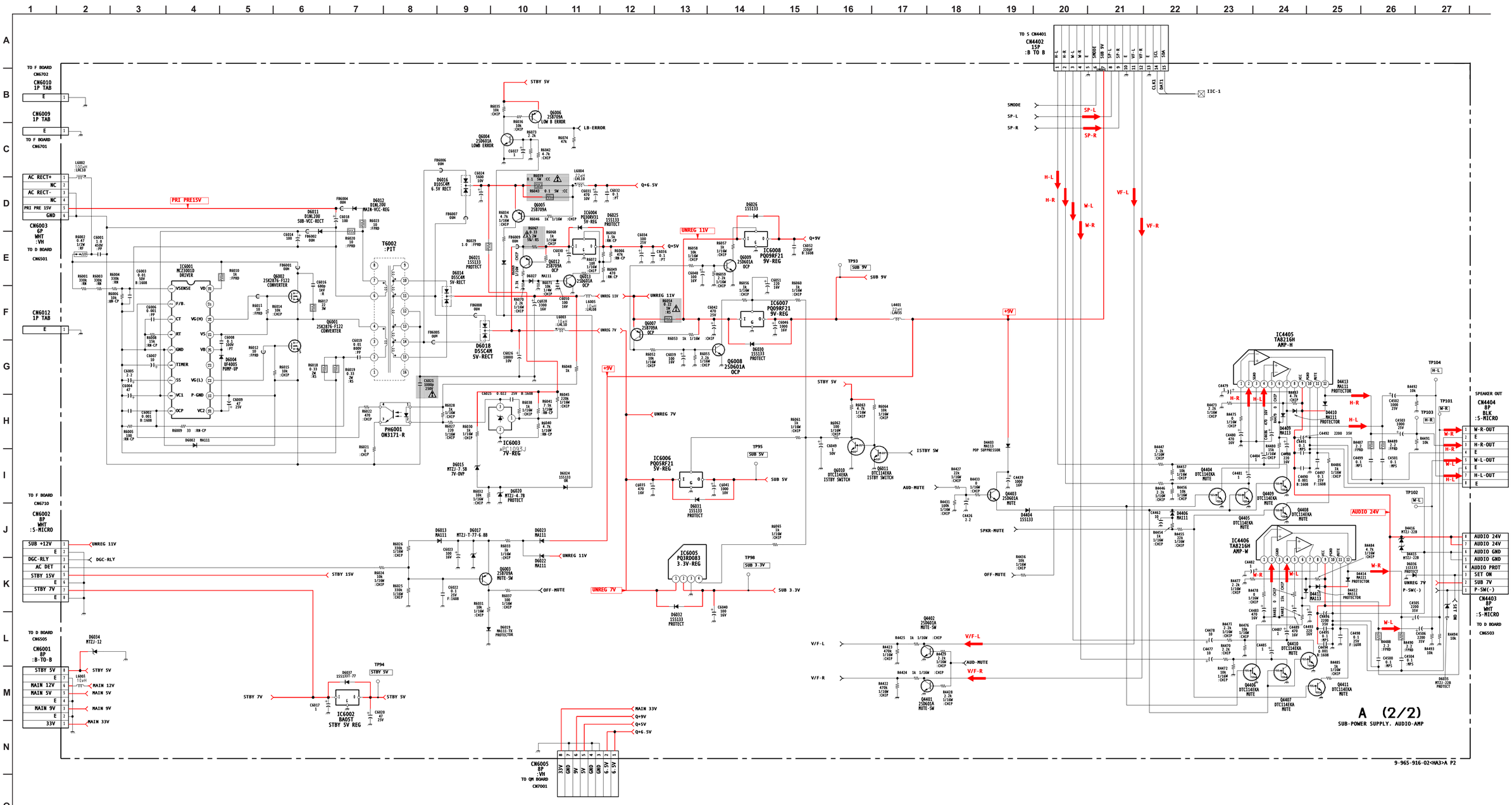
A BOARD WAVEFORMS



A BOARD: IC3101 CXA2150AQ



A BOARD SCHEMATIC DIAGRAM (2 OF 2)



A

[TUNER, YUV-JUNGLE, SUB-POWER SUPPLY, AUDIO AMP]

COMPONENT SIDE

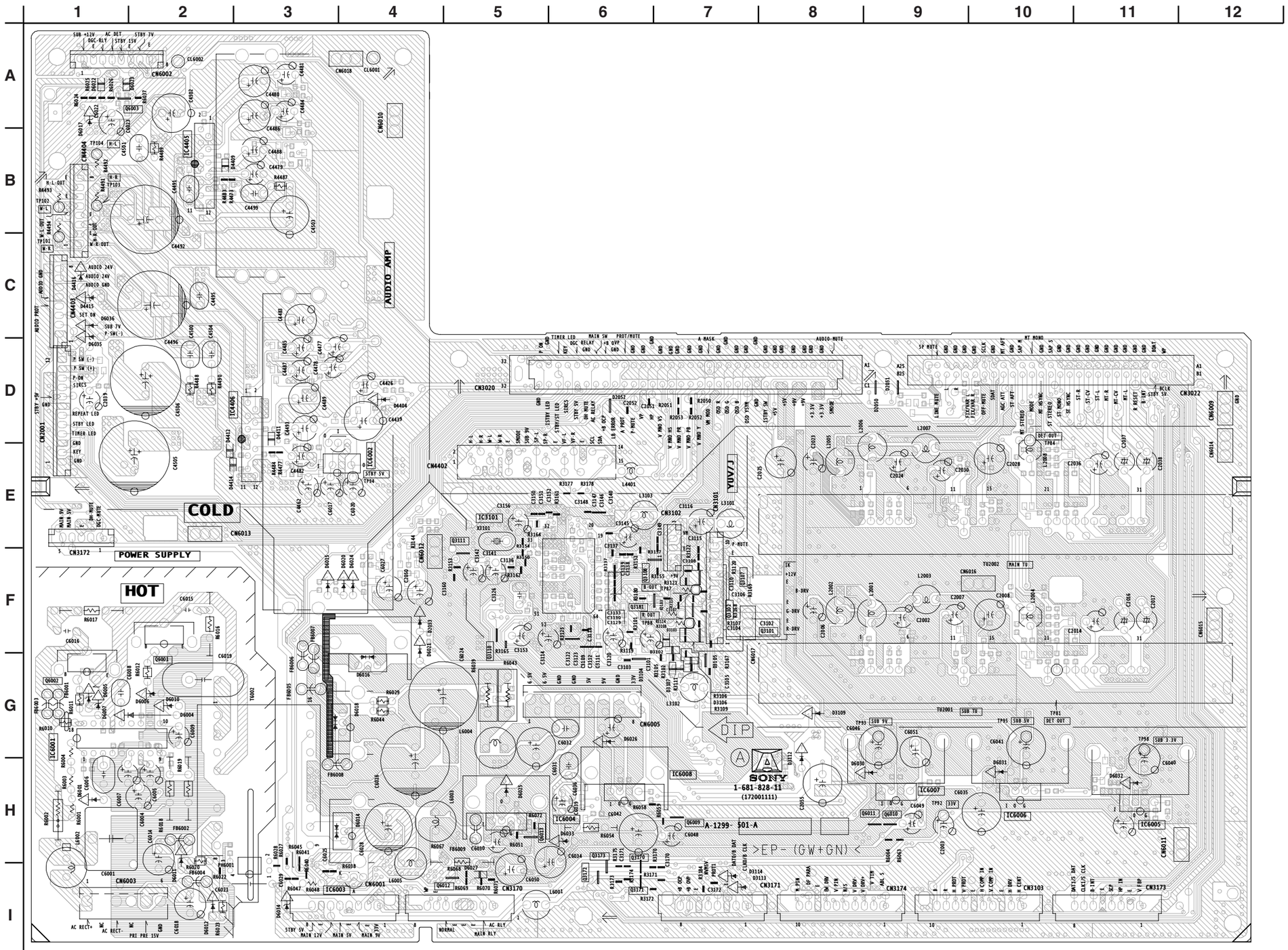
A BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		TRANSISTOR	
D2007	F-1	Q2001	C-10
D2008	F-1	Q2002	D-11
D2054	D-4	Q2003	E-9
D2055	D-4	Q2004	E-10
D2056	D-4	Q2005	E-10
D2057	B-7	Q2006	F-1
D2058	B-7	Q2050	D-4
D2059	B-8	Q2053	D-4
D3109	C-8	Q3103	C-7
D3111	D-6	Q3105	D-5
D3112	C-7	Q3106	D-6
D3113	A-8	Q3112	E-5
D3114	A-8	Q3180	D-6
D4403	E-4	Q4401	F-9
D4406	E-3	Q4402	F-9
D4410	H-2	Q4403	F-3
D4413	G-2	Q4404	H-3
D4416	G-1	Q4405	I-3
D6002	C-2	Q4406	F-4
D6004	C-2	Q4407	F-3
D6016	C-4	Q4408	H-3
D6018	C-4	Q4409	H-3
D6019	H-2	Q4410	F-3
D6021	C-4	Q4411	E-3
D6026	B-6	Q6001	D-2
D6030	B-9	Q6002	C-1
D6031	B-10	Q6004	D-4
D6032	B-11	Q6005	C-5
D6034	A-3	Q6006	D-4
D6036	F-1	Q6007	B-6
		Q6008	B-6

A

[TUNER, YUV-JUNGLE, SUB-POWER SUPPLY, AUDIO AMP]

CONDUCTOR SIDE



A BOARD LOCATOR LIST (CONDUCTOR SIDE)

DIODE		IC4405	B-2
D2050	D-9	IC4406	D-3
D2051	D-9	IC6001	G-1
D2052	D-6	IC6002	E-4
D2053	F-4	IC6003	I-3
D3103	F-7	IC6004	H-6
D3105	G-7	IC6005	H-11
D3106	G-7	IC6006	H-10
D4404	D-4	IC6007	H-9
D4409	B-3	IC6008	H-7
D4411	D-3	**TRANSISTOR**	
D4412	D-2	Q3101	F-8
D4414	E-2	Q3102	F-8
D4415	C-1	Q3107	F-7
D6011	I-2	Q3108	F-6
D6012	I-2	Q3110	F-5
D6013	I-1	Q3111	E-5
D6014	H-4	Q3170	I-6
D6015	F-3	Q3171	I-6
D6017	A-1	Q3172	I-6
D6020	F-4	Q3173	I-6
D6022	A-1	Q3181	F-6
D6023	A-2	Q6003	A-2
D6024	F-4	Q6009	H-7
D6025	H-5	Q6010	H-9
D6027	H-5	Q6011	H-9
D6035	D-1	Q6012	I-4
IC		Q6013	H-6
IC3101	E-5		

A BOARD IC VOLTAGE LIST (1 OF 2)

IC3101		14	2.3	29	5.0	44	GND	59	1.7
pin	volt	15	3.7	30	5.6	45	2.8	60	1.7
1	GND	16	2.7	31	1.3	46	3.6	61	9.0
2	0.0	17	2.6	32	3.0	47	3.9	62	2.3
3	GND	18	1.1	33	1.6	48	4.4	63	2.5
4	3.1	19	4.9	34	0.0	49	5.4	64	2.3
5	3.1	20	3.6	35	0.0	50	3.5		
6	3.1	21	3.4	36	0.2	51	3.8		
7	0.0	22	3.4	37	0.0	52	3.4		
8	3.6	23	GND	38	3.2	53	3.5		
9	3.6	24	N/C	39	1.1	54	1.0		
10	3.6	25	4.6	40	2.8	55	9.0		
11	0.0	26	4.6	41	GND	56	1.0		
12	0.5	27	0.7	42	0.0	57	4.3		
13	0.5	28	0.0	43	3.8	58	3.9		

All voltages are in V.

A BOARD TRANSISTOR VOLTAGE LIST (1 OF 2)

	B	C	E		B	C	E
Q2001	4.3	9.0	3.6	Q3106	4.4	8.7	3.9
Q2002	4.5	0	5.0	Q3107	2.0	GND	3.2
Q2003	0.1	7.5	GND	Q3108	2.2	GND	3.2
Q2004	4.6	1.1	5.0	Q3110	2.8	11.5	0.0
Q2005	6.2	9.0	5.5	Q3111	0	0	GND
Q2006	0.6	11.2	14.6	Q3112	5.6	9.0	5.0
Q2050	0.0	0.3	0.0	Q3170	0.0	0.0	GND
Q2053	0.0	0.4	0.0	Q3171	0.0	0.0	0.0
Q3101	2.3	GND	3.2	Q3172	0.0	0.0	0.0
Q3102	2.5	GND	3.2	Q3173	0.0	0.0	GND
Q3103	0.6	0.0	0.0	Q3180	2.0	GND	7.6
Q3105	4.5	GND	3.9	Q3181	2.0	GND	7.6

All voltages are in V.

A BOARD IC VOLTAGE LIST (2 OF 2)

IC4405		6	8.0	13	N/C	IC6005	
pin	volt	7	11.1	14	160.6	pin	volt
1	1.5	8	5.0	15	150.4	1	6.3
2	0.0	9	23.8	16	154.6	2	3.3
3	0.0	10	0.0	17	N/C	3	GND
4	0.0	11	4.1	18	303.1	4	5.0
5	1.5	12	10.8	IC6002		IC6006	
6	8.0	IC6001		pin	volt	pin	volt
7	11.1	pin	volt	1	7.3	1	6.3
8	5.0	1	3.3	2	GND	2	5.0
9	23.8	2	1.8	3	2.5	3	GND
10	0.0	3	2.2	IC6003		IC6007	
11	4.1	4	2.5	pin	volt	pin	volt
12	10.8	5	GND	1	5.7	1	6.3
IC4406		6	0.0	2	GND	2	GND
pin	volt	7	4.6	3	3.3	3	5.0
1	1.5	8	17.3	IC6004		IC6008	
2	0.0	9	0.0	pin	volt	pin	volt
3	0.0	10	10.4	1	6.0	1	9.9
4	0.0	11	GND	2	GND	2	9.0
5	1.5	12	4.7	3	5.1	3	GND
						4	2.1

All voltages are in V.

A BOARD TRANSISTOR VOLTAGE LIST (2 OF 2)

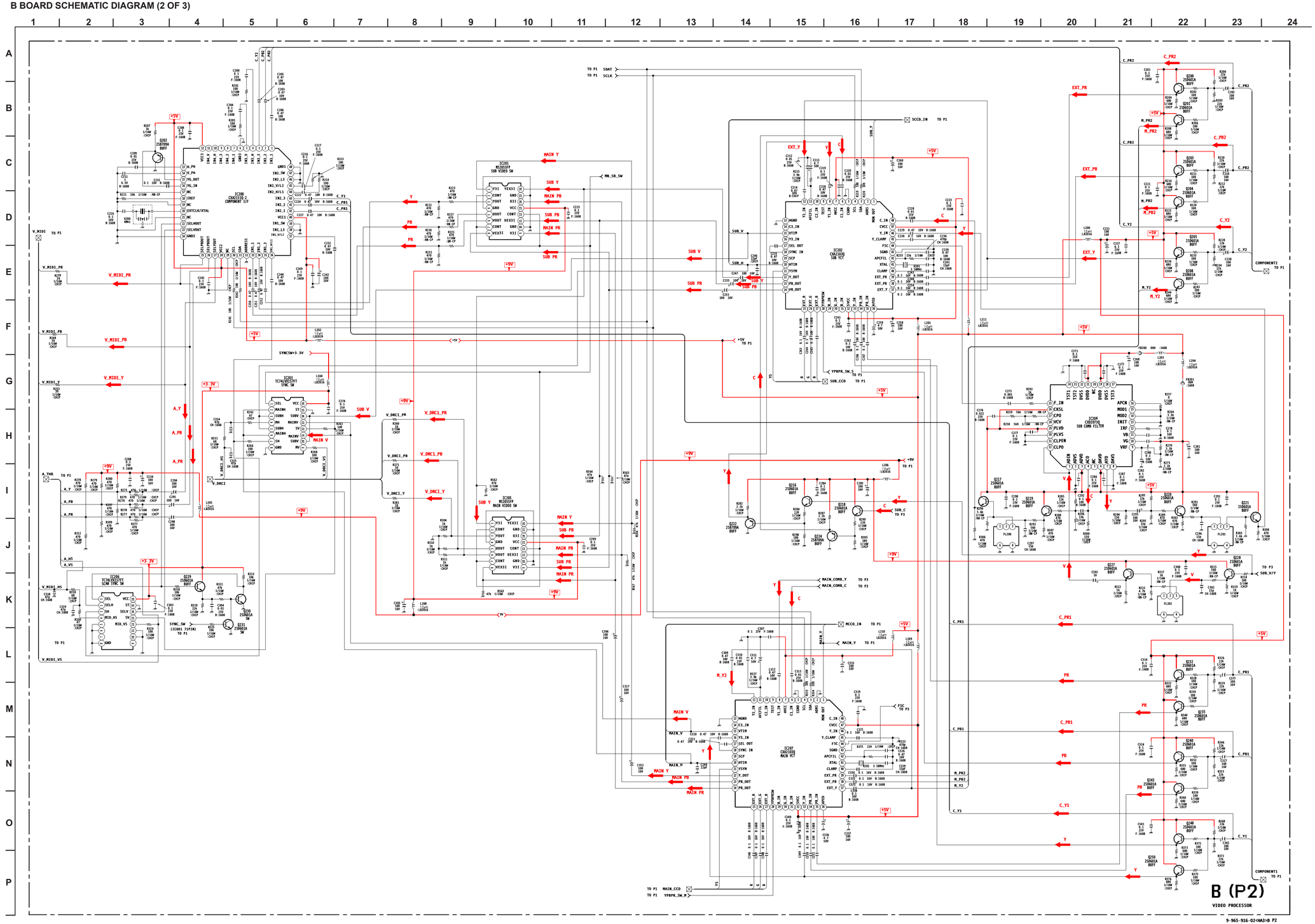
	B	C	E		B	C	E
Q4401	0.7	0.0	GND	Q6002	2.6	151.8	-1.5
Q4402	0.7	0.0	GND	Q6003	0.2	0.0	0.0
Q4403	0.0	8.9	-0.2	Q6004	0.0	5.0	GND
Q4404	0.0	0.0	GND	Q6005	6.2	-0.2	6.3
Q4405	0.0	0.0	GND	Q6006	5.0	0.0	5.0
Q4406	0.0	8.0	GND	Q6007	9.9	0.0	10.2
Q4407	0.0	0.0	GND	Q6008	0.1	5.0	GND
Q4408	0.0	4.1	GND	Q6009	9.9	2.1	GND
Q4409	0.0	0.0	GND	Q6010	0.0	5.0	GND
Q4410	0.0	0.0	GND	Q6011	5.0	0.0	GND
Q4411	0.0	0.0	GND	Q6012	6.1	0.0	6.3
Q6001	-147.8	-1.3	-152.2	Q6013	0.0	2.0	GND

All voltages are in V.

B BOARD SCHEMATIC DIAGRAM (1 OF 3)

B BOARD WAVEFORMS

1 0.6 Vp-p (H)	2 0.6 Vp-p (H)	3 1.5 Vp-p (H)
4 1.5 Vp-p (H)	5 1.4 Vp-p (V)	6 1.5 Vp-p (H)
7 1.1 Vp-p (H)	8 1.3 Vp-p (H)	9 3.5 Vp-p (H)
10 3.3 Vp-p (V)	11 1.5 Vp-p (H)	12 1.1 Vp-p (H)
13 1.1 Vp-p (H)	14 3.4 Vp-p (H)	15 3.4 Vp-p (V)
16 5.3 Vp-p (V)	17 5.0 Vp-p (H)	18 0.5 Vp-p (H)
19 0.6 Vp-p (H)	20 1.4 Vp-p (H)	21 1.9 Vp-p (H)
22 1.9 Vp-p (H)		


B (P2)
VIDEO PROCESSOR
9-965-916-02<HA3>B P2
IC200 CXA2150Q-S COMPONENT I/F
IC201 M52055FP SUB VIDEO SW
IC202 CXA2103Q SUB YCT
IC203 TC74LVX157FT SYNC SW
IC204 CXD2107Q SUB COMB FILTER
IC205 M52055FP MAIN VIDEO SW
IC207 CXA2103Q MAIN YCT
IC208 TC74LVX157FT SCAN SYNC SW
Q200 2SD601A BUFF
Q201 2SD601A BUFF
Q202 2SD709A BUFF
Q203 2SD601A BUFF
Q204 2SD601A BUFF
Q205 2SD601A BUFF
Q206 2SD601A BUFF
Q207 2SD601A BUFF
Q208 2SD601A BUFF
Q209 2SD601A BUFF
Q210 2SD709A BUFF
Q211 2SD601A BUFF
Q212 2SD601A BUFF
Q213 2SD601A BUFF
Q214 2SD601A BUFF
Q215 2SD601A BUFF
Q216 2SD601A BUFF
Q217 2SD601A BUFF
Q218 2SD601A BUFF
Q219 2SD601A BUFF
Q220 2SD601A BUFF
Q221 2SD601A BUFF
Q222 2SD709A BUFF
Q223 2SD601A BUFF
Q224 2SD709A BUFF
Q225 2SD601A BUFF
Q226 2SD601A BUFF
Q227 2SD601A BUFF
Q228 2SD601A BUFF
Q229 2SD601A BUFF
Q230 2SD601A SW
Q231 2SD601A SW
Q232 2SD601A BUFF
Q233 2SD601A BUFF
Q234 2SD601A BUFF
Q235 2SD601A BUFF
Q236 2SD601A BUFF
Q237 2SD601A BUFF
Q238 2SD601A BUFF
Q239 2SD601A BUFF
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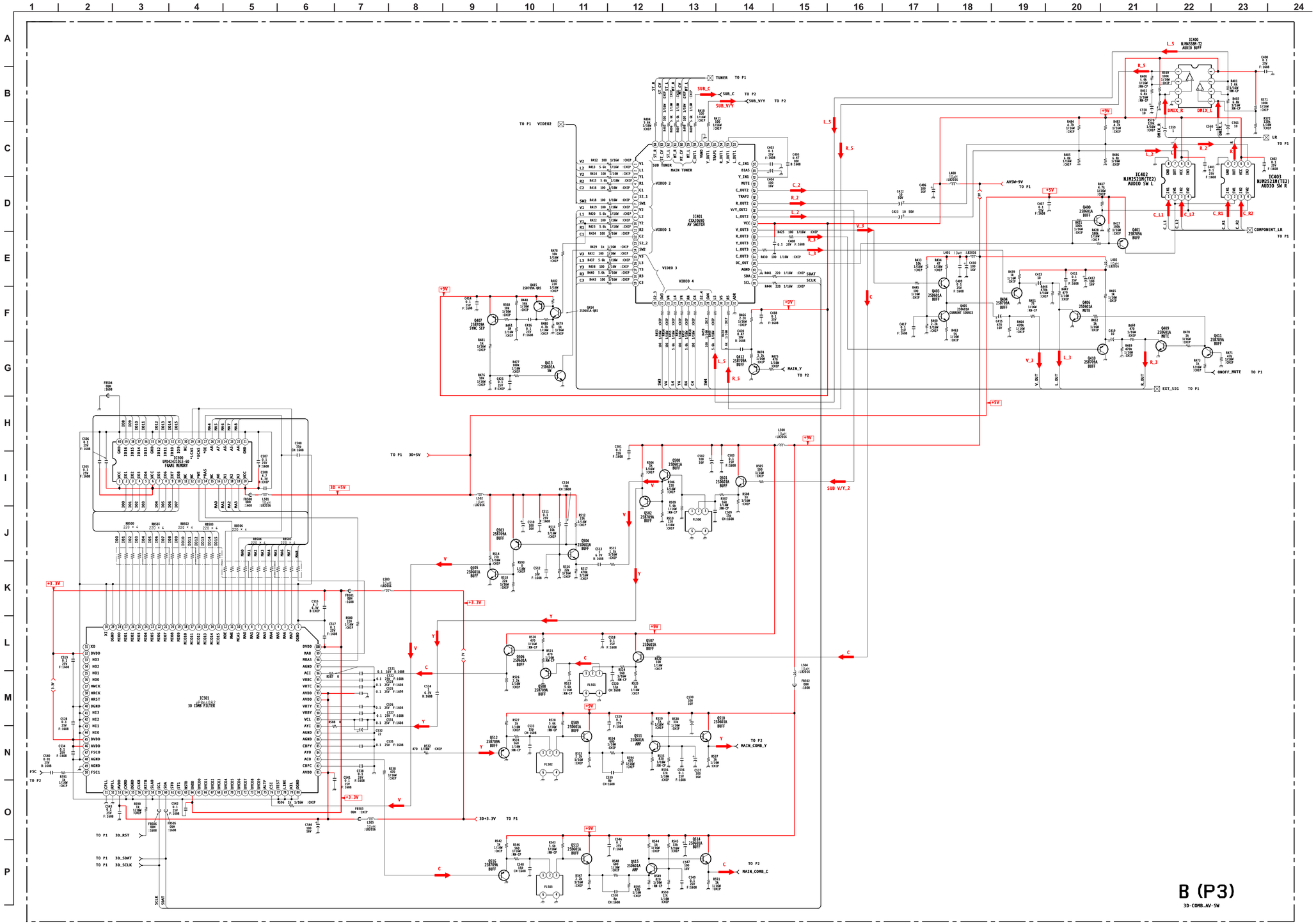
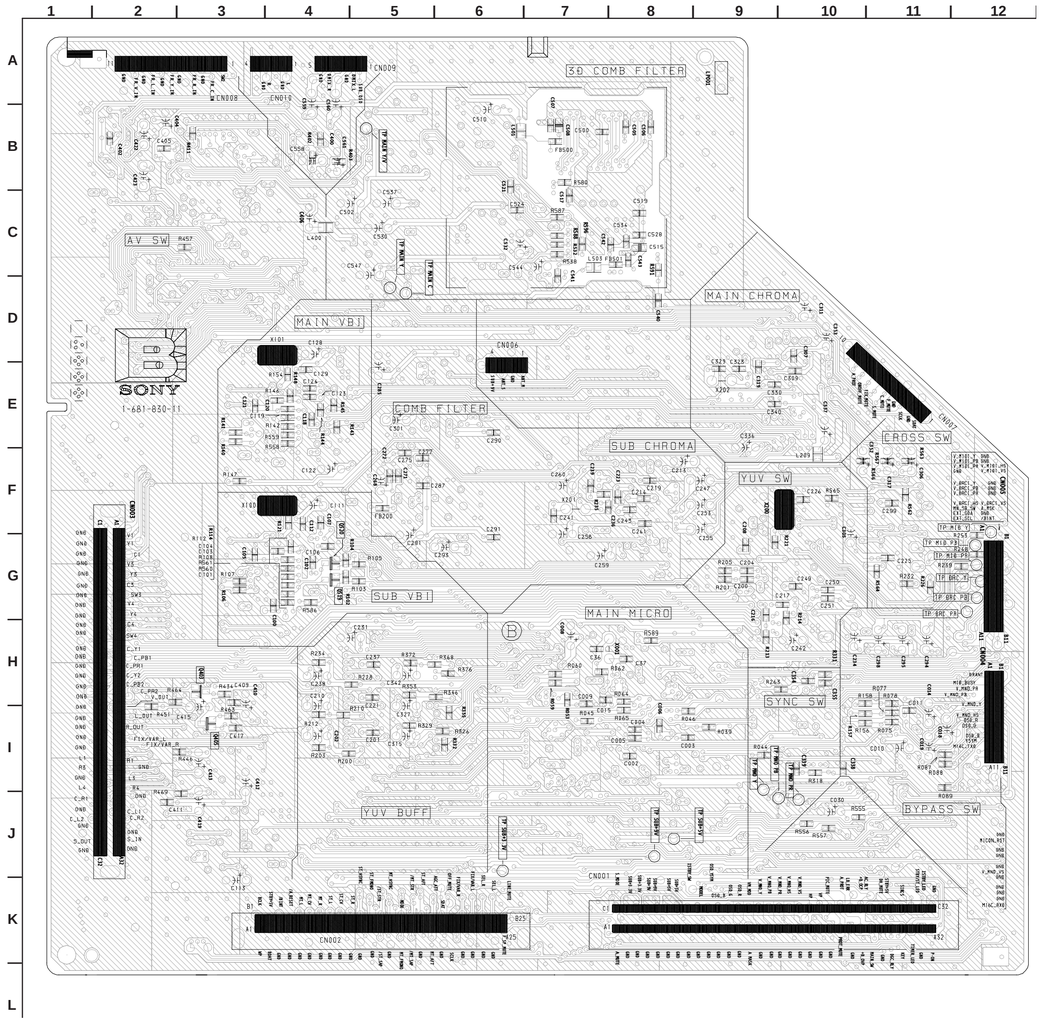
Q241 2SD601A BUFF
Q242 2SD601A BUFF
Q243 2SD601A BUFF
Q244 2SD601A BUFF

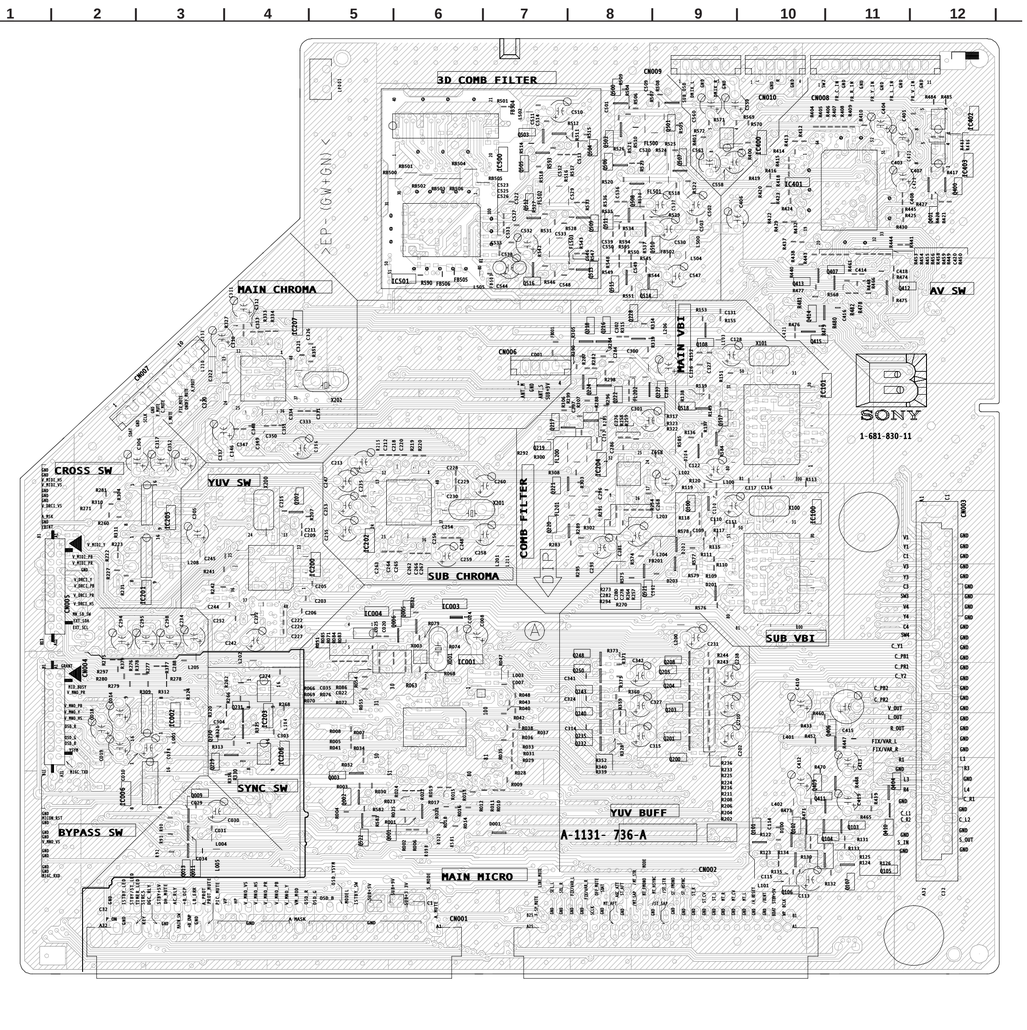

IC401
CXA2060A
AV SWITCH
IC402
NJM2521M(TE2)
AUDIO SW L
IC403
NJM2521M(TE2)
AUDIO SW R
IC400
NJM4558M-T2
AUDIO BUFF
IC500
UPD42421ZLE-60
FRAME MEMORY
IC501
CXA2060A
3D COMB FILTER
B (P3)
3D-COMB.AV-SW

B [MICRO (MAIN, CCD), VIDEO PROCESSOR, 3D-COMB, AV-SW]

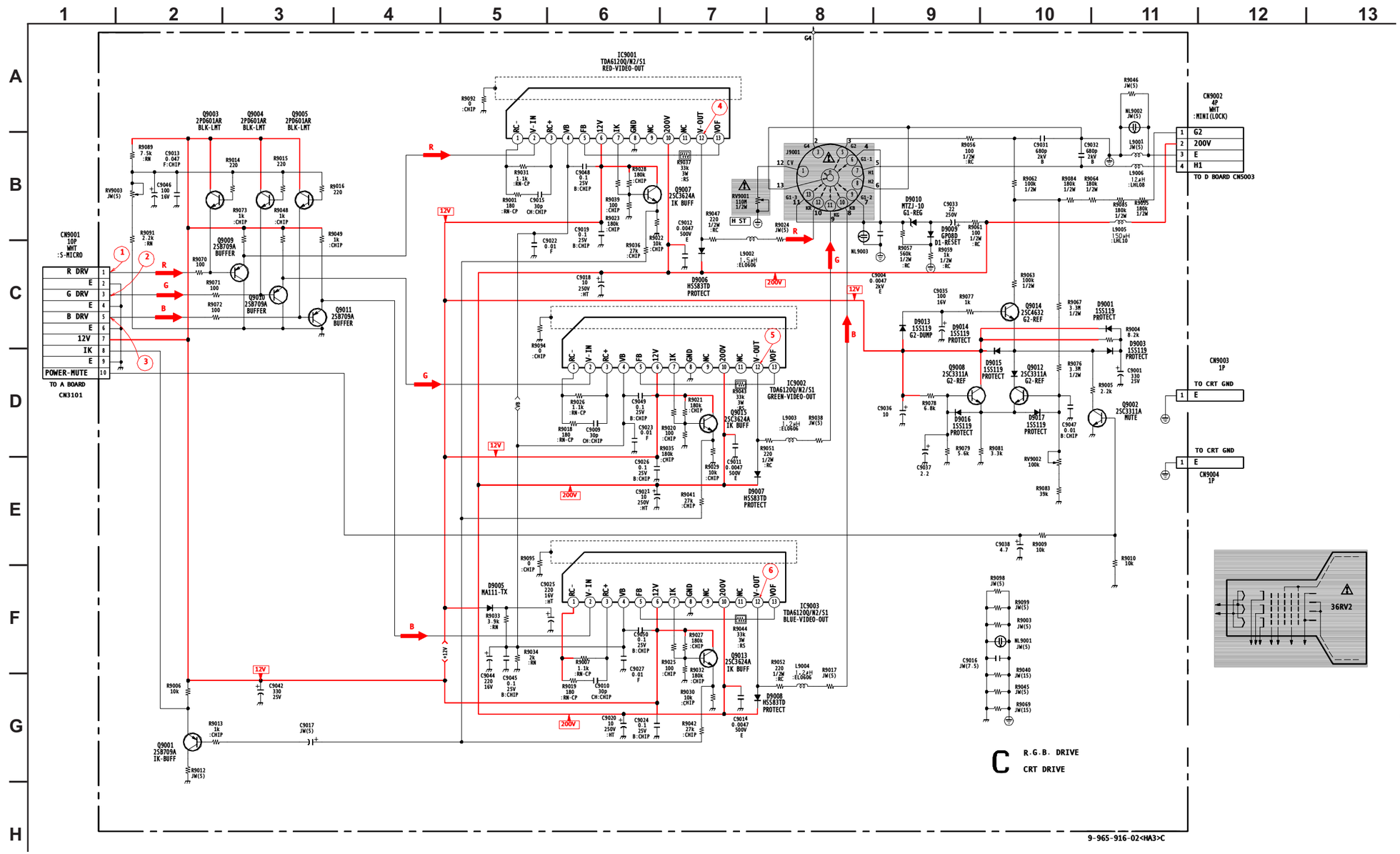
CONDUCTOR SIDE



COMPONENT SIDE



C BOARD SCHEMATIC DIAGRAM



C BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q9001	7.5	GND	3.6
Q9002	0.2	11.1	GND
Q9003	2.1	12.0	3.2
Q9004	2.1	12.0	3.2
Q9005	3.2	12.0	2.1
Q9007	11.3	12.0	10.4
Q9008	5.4	12.0	4.8
Q9009	3.2	GND	3.9
Q9010	3.2	GND	4.0
Q9011	3.2	GND	3.9
Q9012	5.4	10.5	4.8
Q9013	11.6	12.0	10.9
Q9014	11.7	450.0	11.1
Q9015	11.0	12.0	10.2

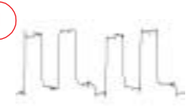
All voltages are in V.

C BOARD IC VOLTAGE LIST

IC9001		IC9002		IC9003	
pin	volt	pin	volt	pin	volt
1	3.0	1	3.2	1	3.1
2	3.7	2	3.9	2	3.8
3	2.9	3	2.9	3	2.9
4	3.6	4	3.6	4	3.6
5	2.0	5	2.0	5	2.0
6	12.0	6	12.0	6	12.0
7	11.4	7	11.7	7	11.7
8	GND	8	GND	8	GND
9	N/C	9	N/C	9	N/C
10	200.0	10	200.0	10	200.0
11	N/C	11	N/C	11	N/C
12	144.0	12	155.0	12	162.0
13	136.0	13	129.0	13	134.0

All voltages are in V.

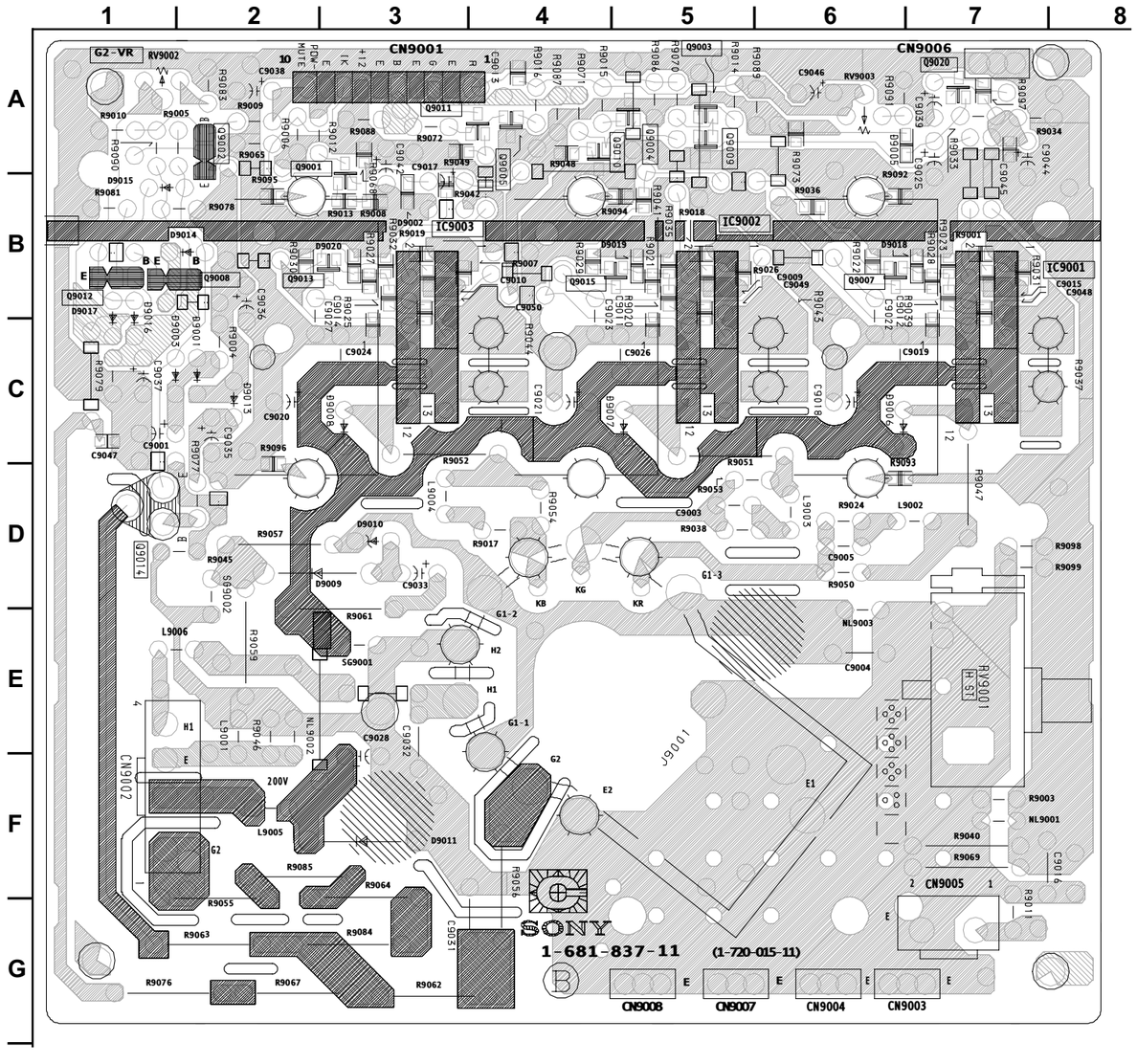
C BOARD WAVEFORMS

1	2	3	4	5	6
					
3.1 Vp-p (H)	3.5 Vp-p (H)	3.3 Vp-p (H)	145.0 Vp-p (H)	134.0 Vp-p (H)	118.0 Vp-p (H)

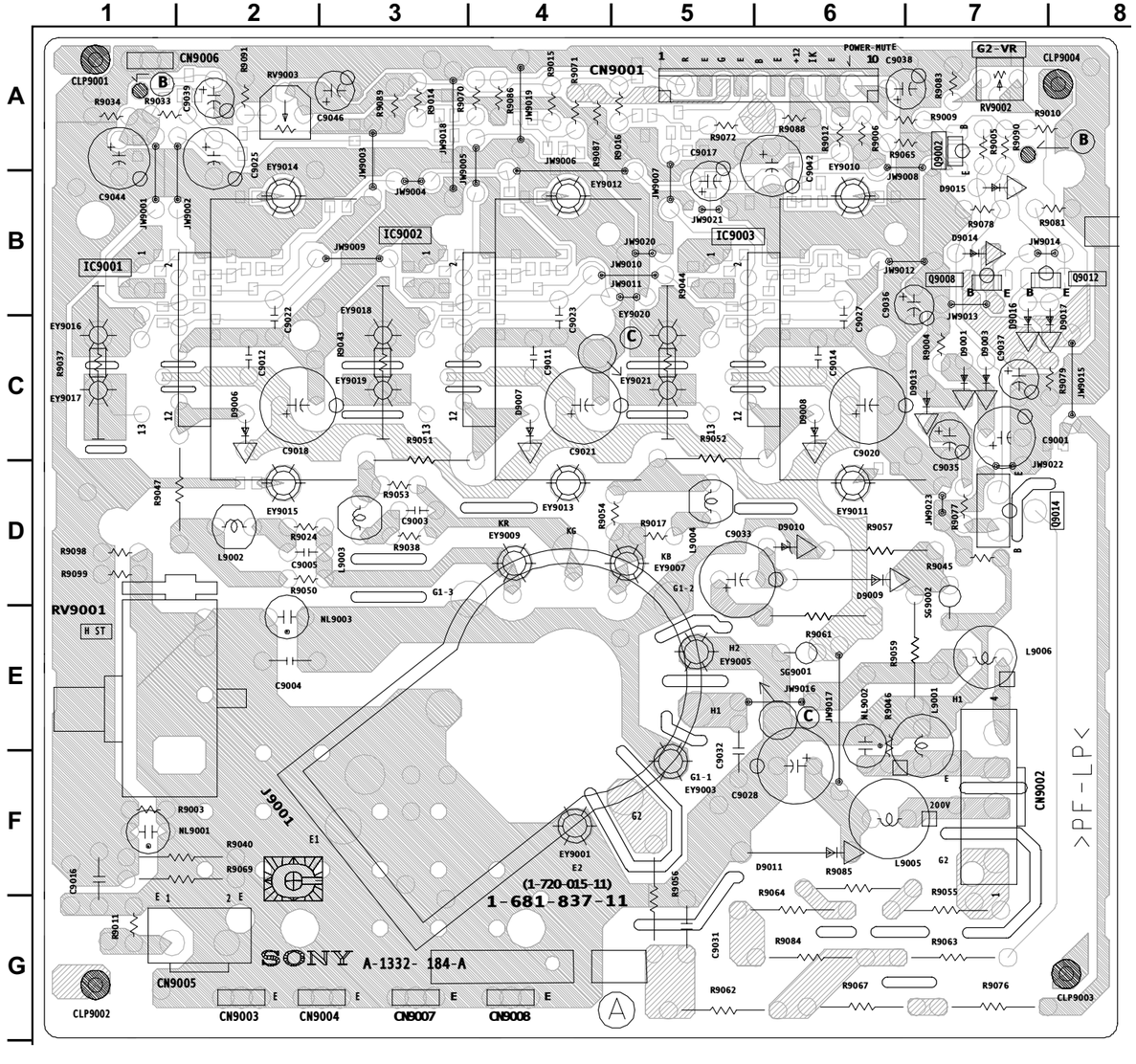
C

[R.G.B. DRIVE, CRT DRIVE]

COMPONENT SIDE



CONDUCTOR SIDE



D BOARD SCHEMATIC DIAGRAM (1 OF 3)

D (1/3)
POWER SUPPLY
AC RECT

TO F BOARD
CN6709
CN6502
2P
WHT
:MINI(LOCK)
AC OUT 1
AC OUT 2

TO A BOARD
CN6003
AC RECT+ 1
NC 2
AC RECT- 3
NC 4
PRI 15V 5
GND 6
CN6501
6P
WHT
:YH

AC RLY 1
MAIN RLY 2
E 3
E 4
E 5
NORMAL 6
E 7
WP 8
CN6504
8P
TO A BOARD
CN3170

TO A BOARD
CN6001
CN6505
8P
STBY 5V 8
E 7
MAIN 12V 6
MAIN 5V 5
E 4
MAIN 9V 3
E 2
33V 1
CN6506
8P
TO A BOARD
CN3171
CLKO/B CLK 1
DATO/B DAT 2
E 3
PROT1 4
NVM5V 5
E 6
OVP 7
+B OCP 8

TO A BOARD
CN4403
CN6503
8P
WHT
:S-MICRO
8 AUDIO 22V
7 AUDIO 22V
6 AUDIO GND
5 AUDIO GND
4 AUDIO-PROT
3 SET ON
2 SUB 7V
1 P-SW(-)

9-965-916-02<HA3>D P1

D BOARD SCHEMATIC DIAGRAM (2 OF 3)

D BOARD WAVEFORMS

1 — 12 Vp-p (H)	2 — 152.4 Vp-p (H)	3 — 12.8Vp-p (H)
4 — 1.0 KVp-p (H)	5 — 8.0 Vp-p (V)	6 — 60.2 Vp-p (V)
7 — 7.3 Vp-p (V)	8 — 1.9 Vp-p (V)	9 — 94.6 Vp-p (H)
10 — 1.3 Vp-p (H)	11 — 5.1 Vp-p (V)	12 — 2.0 Vp-p (H)
13 — 2.9 Vp-p (H)	14 — 1.7 Vp-p (V).	15 — 1.5 Vp-p (V)

CAUTION !
IC5004 HEAT SINK IS -15V CARE MUST BE TAKEN NOT TO ALLOW HEAT SINK TO TOUCH ANY OTHER COMPONENTS

D (2/3)
H/V DRIVE
H/V DY

DY

9-965-916-02<HA3>D P2

D BOARD SCHEMATIC DIAGRAM (3 OF 3)

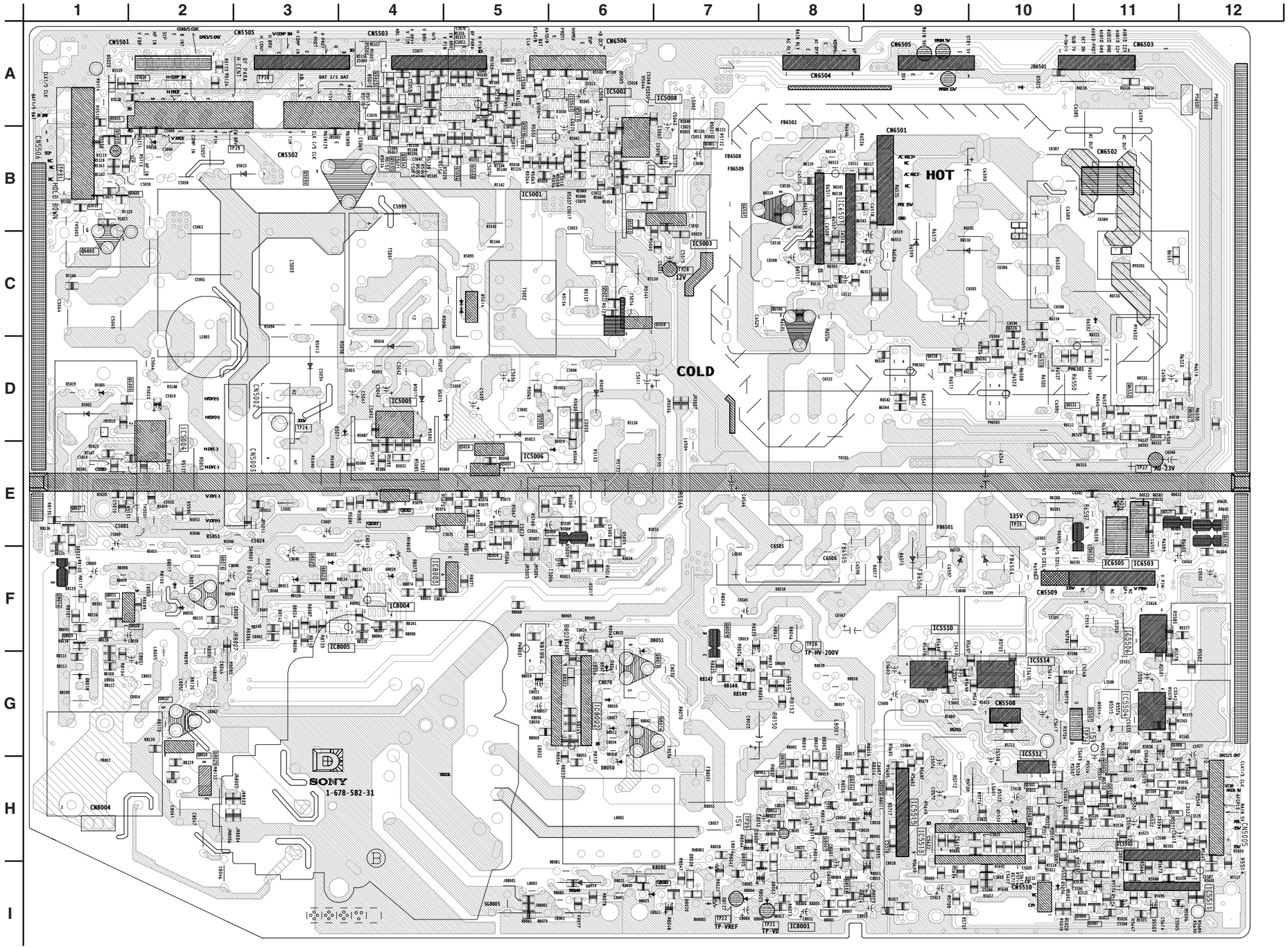
D (3/3)
DEFLECTION

9-965-916-02<HA3>D P3

D

[POWER SUPPLY, AC RECT, H/V DRIVE, H/V DY, DEFLECTION]

COMPONENT SIDE



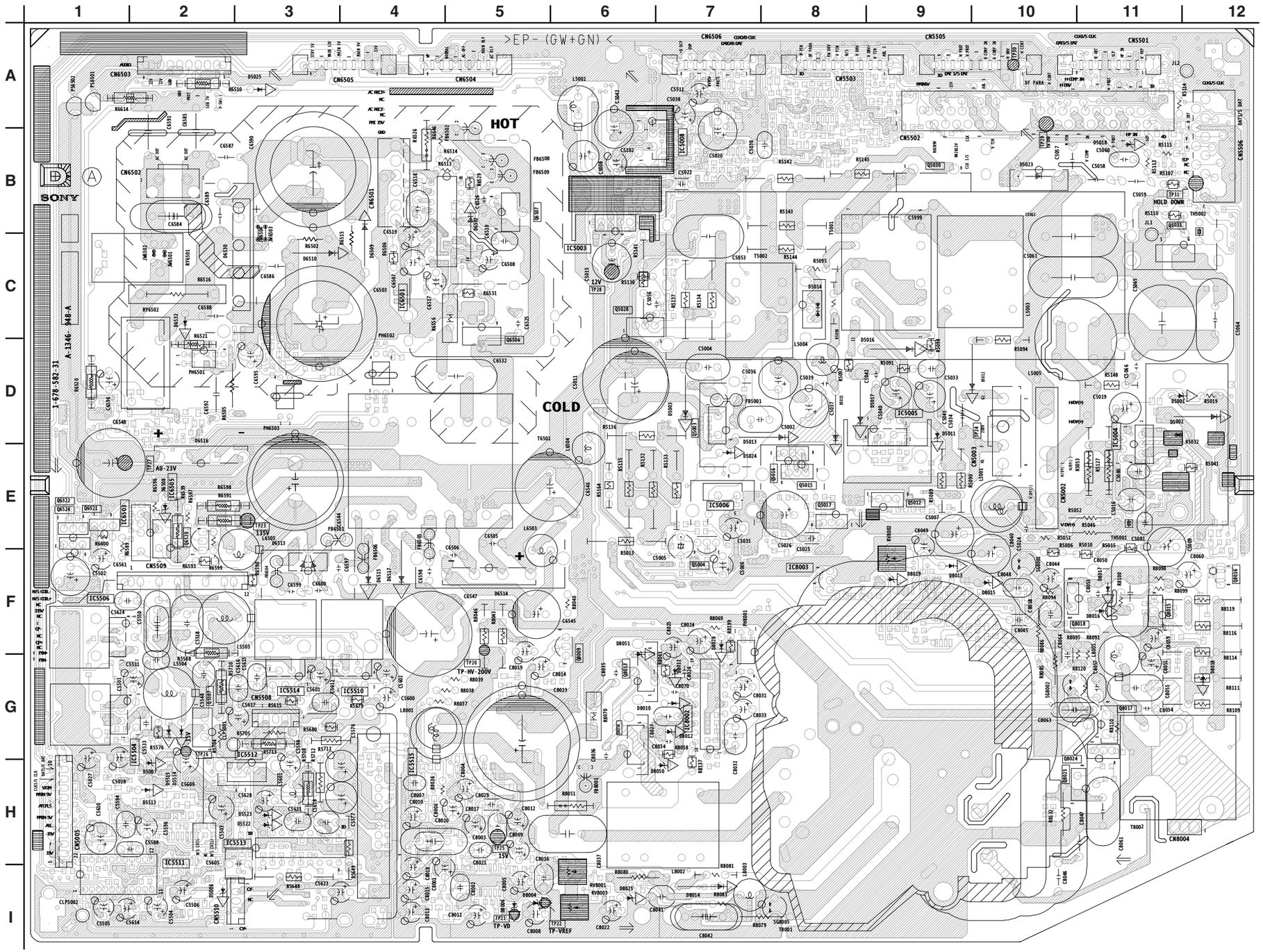
D BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		IC	
D5001	D-12	IC5004	D-11
D5002	D-12	IC5005	D-9
D5003	D-7	IC5006	E-7
D5006	I-2	IC5504	H-2
D5007	H-2	IC5506	F-1
D5011	D-9	IC5510	G-4
D5012	D-10	IC5511	I-2
D5013	D-7	IC5512	H-3
D5014	C-8	IC5513	H-3
D5015	D-8	IC5514	G-3
D5016	C-9	IC5515	H-4
D5017	D-9	IC6501	C-4
D5018	B-11	IC6503	E-2
D5023	B-10	IC6505	E-2
D5024	E-7	IC8002	G-7
D5025	A-3	IC8003	F-8
D5513	H-2	**TRANSISTOR**	
D5514	H-2	Q5003	D-7
D5515	H-2	Q5004	F-7
D5522	H-3	Q5030	B-9
D5523	H-3	Q5031	B-11
D6502	C-5	Q5507	G-2
D6508	E-2	Q6507	B-5
D6509	C-4	Q6521	E-1
D6510	C-3	Q6522	E-1
D6513	F-3	Q6524	E-1
D6514	G-6	Q8009	G-6
D6515	F-4	Q8013	G-6
D6516	D-2	Q8014	G-6
D6517	F-4	Q8015	F-11
D6532	C-2	Q8018	F-11
D8004	I-5		
D8006	I-5		
D8017	F-11		
D8018	G-12		
D8019	F-9		
D8025	I-6		

D

[POWER SUPPLY, AC RECT, H/V DRIVE, H/V DY, DEFLECTION]

CONDUCTOR SIDE



D BOARD LOCATOR LIST (CONDUCTOR SIDE)

DIODE		D8021	I-6	Q5033	B-4
D5004	E-6	D8022	G-6	Q5034	B-4
D5005	F-6	D8026	G-5	Q5035	B-4
D5008	H-12	D8027	G-8	Q5036	B-5
D5009	H-12	IC		Q5037	A-5
D5010	H-11	IC5001	B-5	Q5501	H-10
D5019	B-3	IC5002	A-6	Q5502	H-10
D5021	B-6	IC5003	C-7	Q5503	H-10
D5026	B-4	IC5007	A-5	Q5504	H-11
D5027	B-4	IC5008	A-7	Q5505	H-11
D5028	B-4	IC5501	A-6	Q5506	H-12
D5029	C-7	IC5502	H-11	Q5508	H-11
D5031	H-10	IC8001	I-8	Q5509	H-11
D5032	E-4	IC8004	F-4	Q6503	D-10
D5501	I-12	TRANSISTOR		Q6506	D-7
D5502	I-11	Q5001	B-7	Q6520	F-11
D5503	I-12	Q5002	B-7	Q6526	C-10
D5505	A-6	Q5005	D-2	Q6527	D-11
D5506	H-11	Q5006	I-11	Q6528	D-9
D5507	B-5	Q5007	I-11	Q6529	D-11
D6501	D-11	Q5008	G-12	Q6530	D-11
D6507	B-8	Q5011	A-6	Q6531	D-10
D6522	E-11	Q5012	E-4	Q6532	D-11
D6530	C-10	Q5013	E-4	Q8001	H-8
D6531	C-11	Q5014	E-4	Q8002	H-8
D6533	D-11	Q5015	E-5	Q8003	H-8
D6537	E-11	Q5016	E-5	Q8004	H-8
D8002	I-8	Q5017	E-4	Q8007	H-8
D8003	I-8	Q5018	B-5	Q8008	I-8
D8005	I-8	Q5019	B-1	Q8010	I-7
D8007	I-8	Q5020	B-2	Q8016	F-1
D8009	G-7	Q5021	B-2	Q8019	F-1
D8010	G-6	Q5022	B-2	Q8020	F-2
D8013	F-4	Q5023	A-4	Q8022	F-4
D8014	I-6	Q5026	C-6	Q8023	F-4
D8016	F-2	Q5027	C-6		
D8020	I-7	Q5028	C-7		

D BOARD IC VOLTAGE LIST (1 OF 3)

IC6501		11	0.0	3	2.5
pin	volt	12	4.6	4	11.8
1	2.5	13	N/C	5	GND
2	1.8	14	163.6	IC6505	
3	2.2	15	153.5	pin	volt
4	2.5	16	157.6	1	134.9
5	GND	17	N/C	2	15.7
6	0.0	18	1.7	3	GND
7	4.0	IC6503			
8	17.2	pin	volt		
9	GND	1	134.0		
10	10.4	2	N/C		

All voltages are in V.

D BOARD TRANSISTOR VOLTAGE LIST (1 OF 3)

	B	C	E
Q6503	0.0	2.5	0.0
Q6520	131.0	0.0	132.0
Q6521	0.0	2.1	GND
Q6522	15.7	GND	15.7
Q6524	2.1	0.4	4.9
Q6526	5.9	0.0	5.9
Q6527	0.6	0.0	0.0
Q6528	0.6	0.0	0.0
Q6529	0.0	5.9	0.0
Q6530	4.7	0.0	4.7
Q6531	0.6	0.0	GND
Q6532	0.0	4.7	GND

	D	G	S
Q6506	4.7	149.2	0.0
Q6507	154.4	303.3	150.0

All voltages are in V.

D BOARD IC VOLTAGE LIST (2 OF 3)

IC5001		5	0.2	14	0.6	12	GND	6	4.2	8	5.0
pin	volt	6	16.2	**IC5008**		13	3.7	7	GND	9	5.0
1	11.0	7	1.2	pin	volt	14	0.0	8	4.2	10	12.1
2	11.0	**IC5005**		1	9.1	**IC5504**		9	1.9	11	4.0
3	1.7	pin	volt	2	12.0	pin	volt	10	4.4	12	5.0
4	GND	1	100.0	3	GND	1	4.2	11	4.4	13	5.0
5	4.0	2	99.7	4	5.0	2	4.2	12	6.4	14	0.5
6	4.0	3	95.3	5	5.2	3	GND	13	N/C	15	1.1
7	5.9	4	100.0	**IC5501**		4	5.5	14	8.2	16	4.6
8	12.1	5	104.6	pin	volt	5	9.0	15	1.9	17	4.6
IC5002		**IC5006**		1	GND	**IC5506**		16	4.0	18	GND
pin	volt	pin	volt	2	5.0	pin	volt	17	4.9	**IC5514**	
1	0.1	I	7.8	3	5.0	1	4.3	18	N/C	pin	volt
2	6.0	G	GND	4	GND	2	4.3	19	3.6	1	0.3
3	3.8	O	6.3	5	4.6	3	-15.5	20	9.0	2	0.3
4	GND	VCC	2.7	6	4.6	4	4.4	21	0.9	3	-12.0
5	2.3	**IC5007**		7	5.0	5	9.0	22	3.4	4	0.7
6	3.7	pin	volt	8	5.0	**IC5510**		**IC5512**		5	9.0
7	2.9	1	3.1	**IC5502**		pin	volt	pin	volt	**IC5515**	
8	12.1	2	0.6	pin	volt	1	0.6	I	-15.8	pin	volt
IC5003		3	12.1	1	5.4	2	0.6	G	GND	1	3.4
pin	volt	4	1.5	2	2.4	3	-11.9	O	-12.0	2	3.4
I	15.6	5	2.3	3	12.1	4	2.4	**IC5513**		3	-9.6
G	GND	6	3.9	4	3.6	5	12.1	pin	volt	4	-15.3
O	12.1	7	2.8	5	3.4	**IC5511**		1	4.5	5	GND
IC5004		8	0.0	6	3.4	pin	volt	2	4.9	6	12.0
pin	volt	9	3.0	7	3.9	1	4.6	3	4.9	7	-14.0
1	1.2	10	1.4	8	1.0	2	4.6	4	4.6	8	2.7
2	15.6	11	6.1	9	1.0	3	4.0	5	5.0	9	GND
3	-12.6	12	GND	10	0.0	4	4.2	6	5.0	All voltages are in V.	
4	-14.5	13	2.5	11	0.0	5	9.0	7	N/C		

D BOARD TRANSISTOR VOLTAGE LIST (2 OF 3)

	B	**C**	**E**		**B**	**C**	**E**		**B**	**C**	**E**		**B**	**C**	**E**
Q5001	2.9	12.0	3.3	Q5014	6.6	12.1	6.1	Q5027	5.2	0.0	5.2	Q5505	0.0	4.2	GND
Q5002	2.9	GND	3.3	Q5015	202.8	212.4	203.2	Q5030	132.0	0.0	GND	Q5506	0.3	3.6	GND
Q5003	127.4	134.1	23.3	Q5016	203.2	212.4	202.6	Q5033	10.0	1.4	10.5	Q5508	4.0	12.1	4.6
Q5004	132.0	0.0	133.0	Q5017	6.5	164.8	6.1	Q5034	0.0	1.4	GND	Q5509	4.0	GND	4.6
Q5005	-0.5	15.6	0.1	Q5018	0.6	1.9	GND	Q5035	0.0	2.5	GND	All voltages are in V.			
Q5006	-12.0	1.0	-12.6	Q5019	3.7	12.1	2.9	Q5036	0.1	5.2	GND				
Q5007	4.4	-12.6	4.8	Q5020	3.7	GND	2.9	Q5037	3.1	12.1	GND		**D**	**G**	**S**
Q5008	11.9	0.0	10.7	Q5021	0.4	9.0	0.5	Q5501	2.4	12.1	3.7	Q5028	5.2	33.5	0.0
Q5011	0.1	3.9	GND	Q5022	0.4	GND	1.1	Q5502	0.5	5.4	GND	Q5031	2.9	12.6	GND
Q5012	3.7	97.7	3.2	Q5023	0.4	3.9	GND	Q5503	0.5	2.4	GND	Q5507	5.4	6.9	GND
Q5013	3.1	GND	3.7	Q5026	5.2	12.1	5.2	Q5504	0.0	4.0	GND	All voltages are in V.			

D BOARD IC VOLTAGE LIST (3 OF 3)

IC8001		10	5.0	5	GND	16	99.0	2	0.9
pin	volt	11	0.1	6	0.0	17	N/C	3	0.9
1	0.1	12	GND	7	4.7	18	198.0	4	GND
2	0.0	13	0.1	8	15.6	IC8003		5	7.1
3	15.6	14	0.1	9	0.0	pin	volt	6	7.1
4	5.0	IC8002		10	10.4	1	2.4	7	7.1
5	0.0	pin	volt	11	GND	2	GND	8	15.2
6	5.0	1	1.6	12	4.5	3	11.0	All voltages are in V.	
7	0.0	2	1.8	13	N/C	IC8004			
8	5.0	3	2.2	14	104.8	pin	volt		
9	4.2	4	2.5	15	94.8	1	14.0		

D BOARD TRANSISTOR VOLTAGE LIST (3 OF 3)

	B	C	E
Q8001	0.1	0.0	GND
Q8002	0.0	1.6	GND
Q8003	0.2	1.6	GND
Q8004	0.0	1.6	GND
Q8007	0.6	0.0	GND
Q8008	0.6	0.0	GND
Q8009	196.0	0.0	196.0
Q8010	2.1	0.0	GND
Q8015	0.5	0.0	GND
Q8016	134.5	134.7	135.1
Q8018	-5.5	94.4	GND
Q8019	3.5	0.0	GND
Q8020	0.0	0.5	GND
Q8022	4.6	GND	4.9
Q8023	4.6	15.5	4.9

	D	G	S
Q8013	4.6	94.8	GND
Q8014	99.0	198.0	93.2

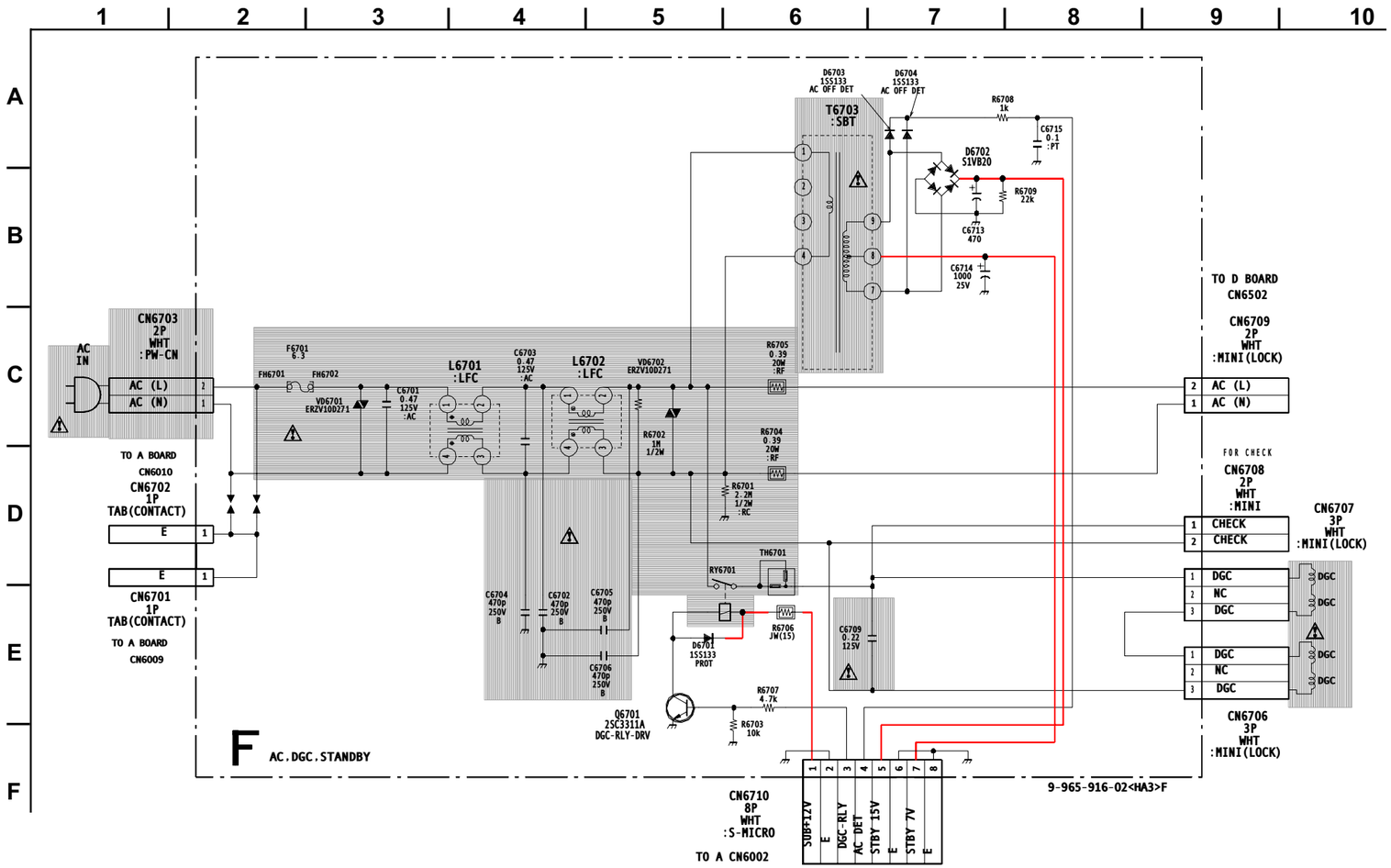
All voltages are in V.

F BOARD TRANSISTOR VOLTAGE LIST

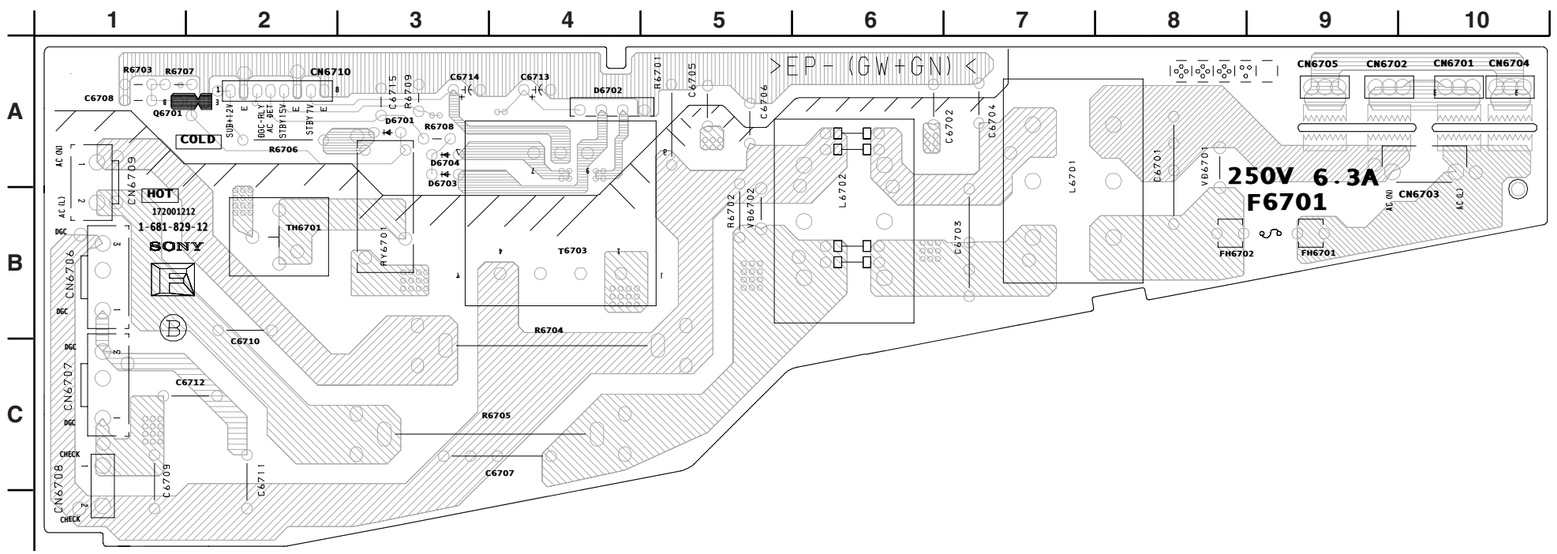
	B	C	E
Q6701	0.0	10.2	-0.2

All voltages are in V.

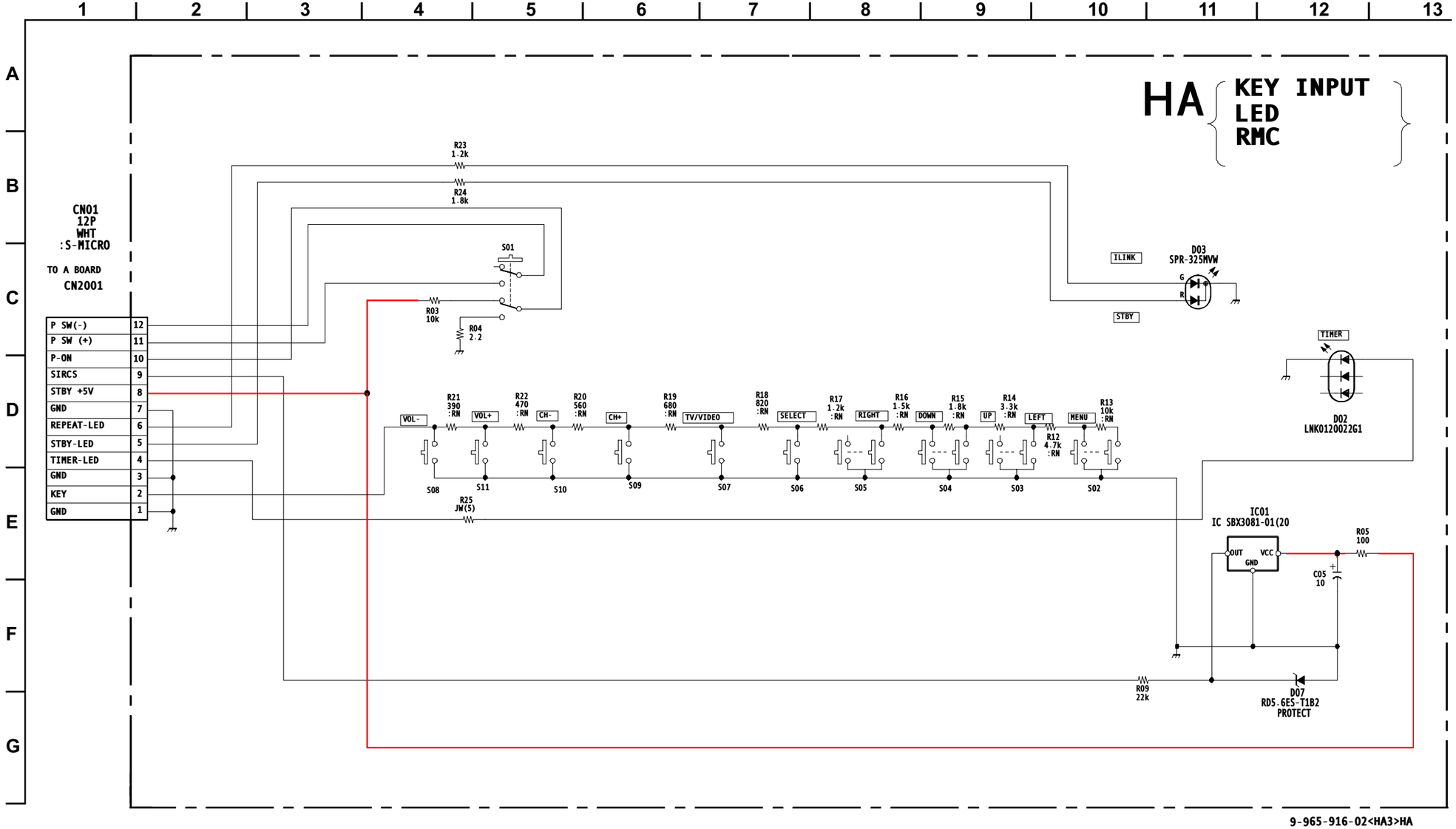
F BOARD SCHEMATIC DIAGRAM



F [AC, DGC, STANDBY]



HA BOARD SCHEMATIC DIAGRAM

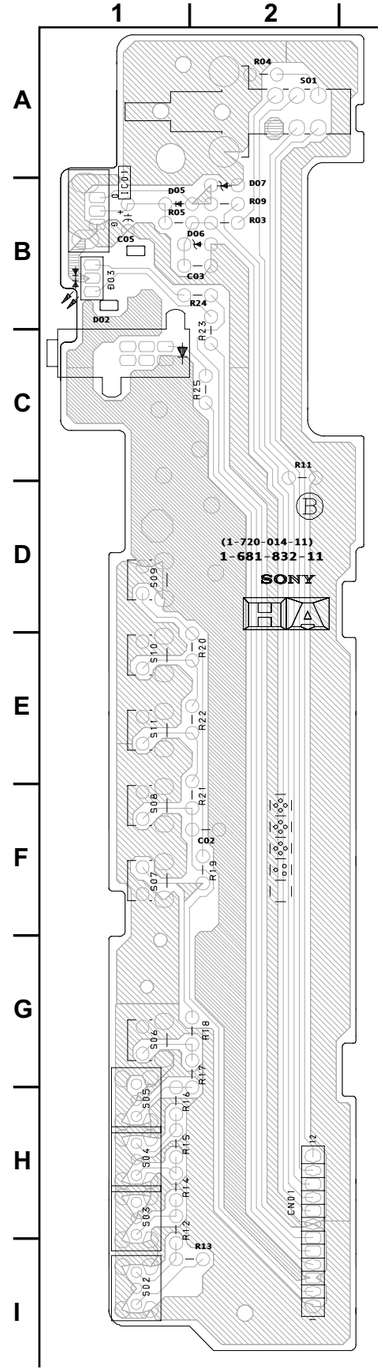


HA BOARD IC VOLTAGELIST

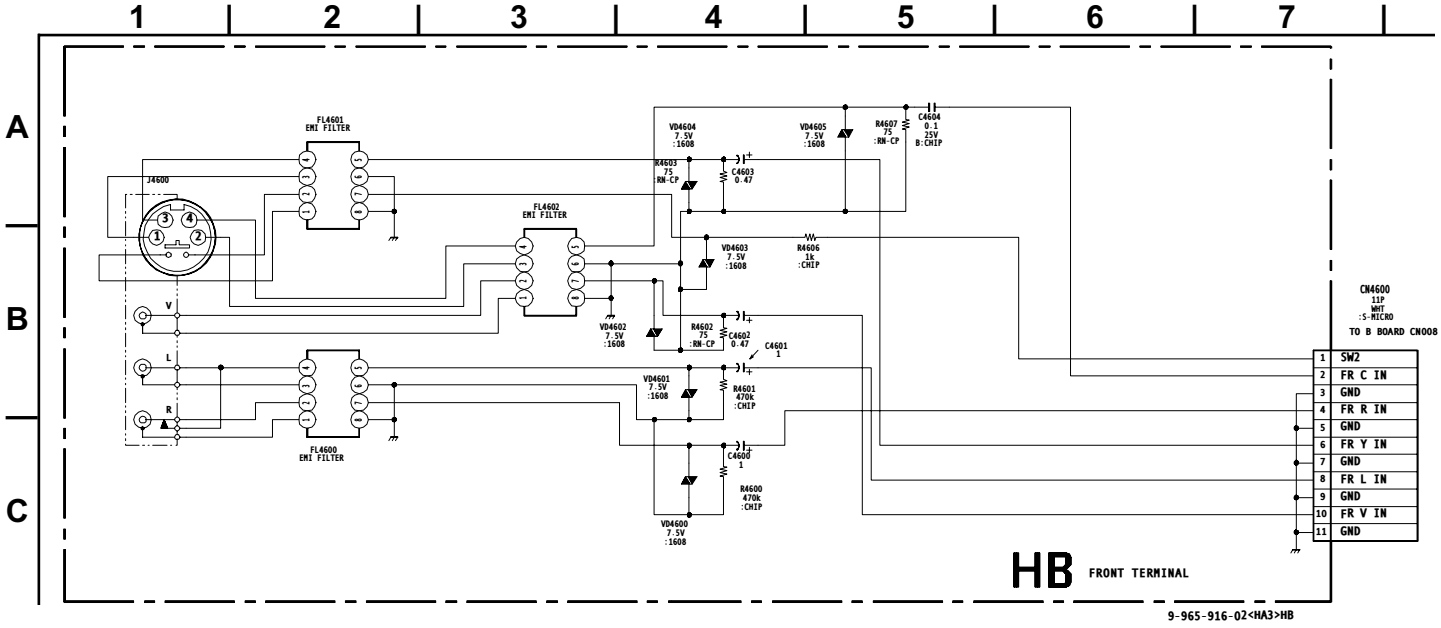
IC01	
pin	volt
1	4.9
2	0.0
3	4.3

All voltages are in V.

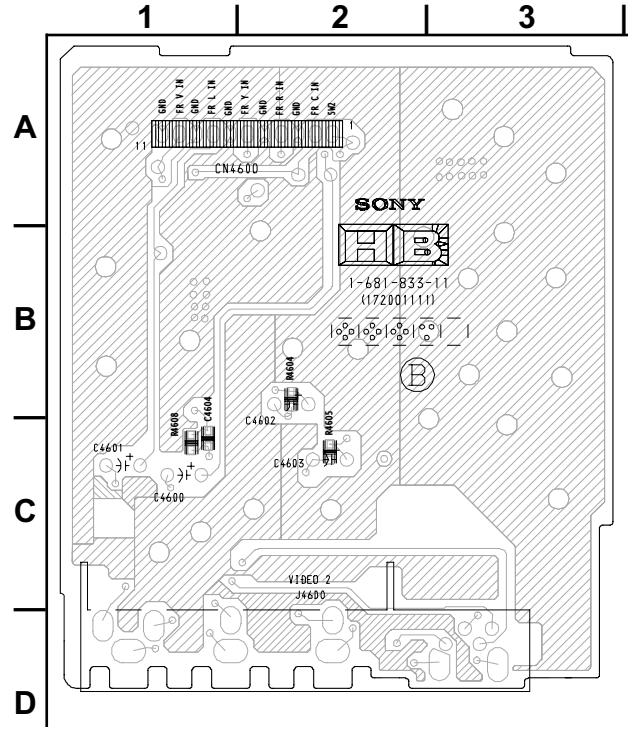
HA [KEY INPUT, LED, RMC]



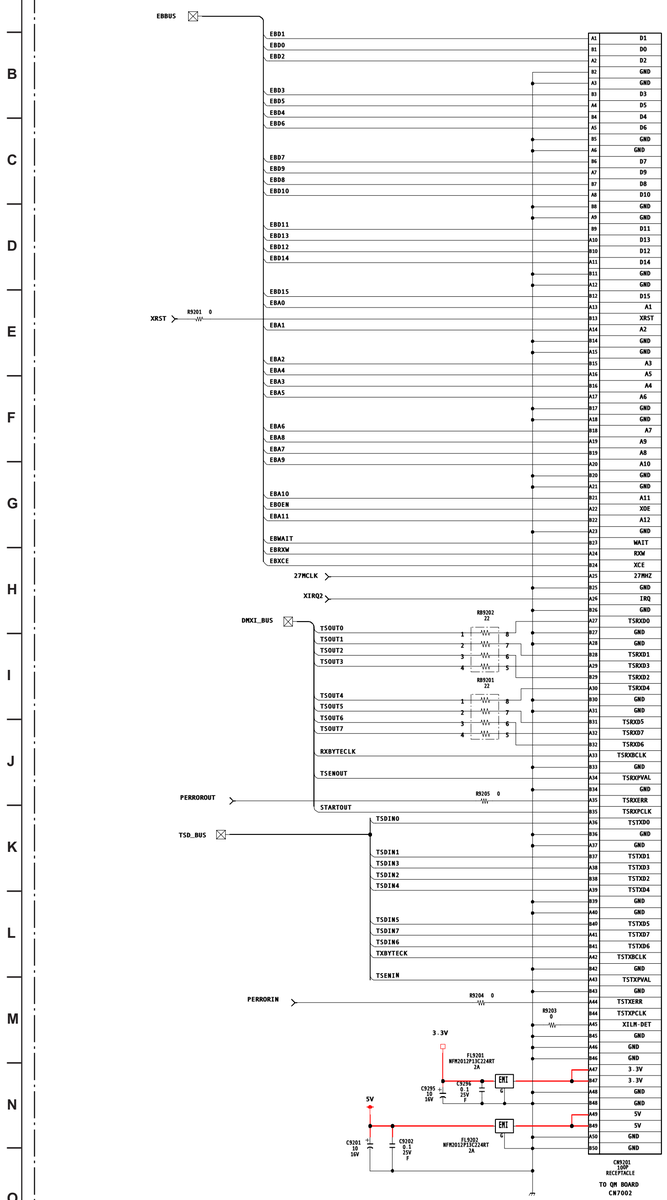
HB BOARD SCHEMATIC DIAGRAM

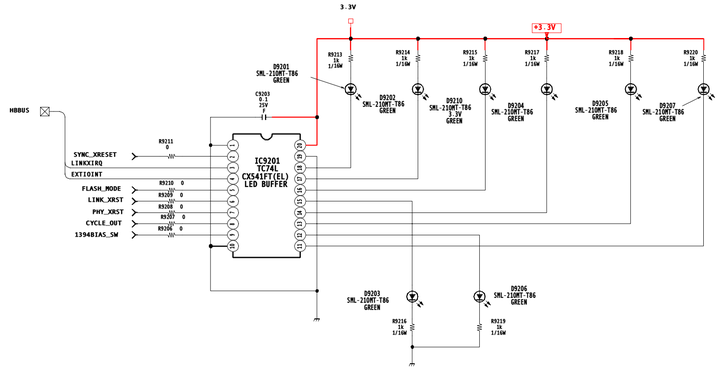


HB [FRONT TERMINAL]



QI BOARD SCHEMATIC DIAGRAM (1 OF 4)





QI BOARD (1/4)

BOARD-TO-BOARD CONNECTOR

9-965-916-02<HA3>QI P1

QI BOARD SCHEMATIC DIAGRAM (2 OF 4)

IC9202
IC CXD3203R
1.LINK
LINK LAYER LSI

IC9203
CXD1945R
1.LINK
PHYSICAL LAYER
IC

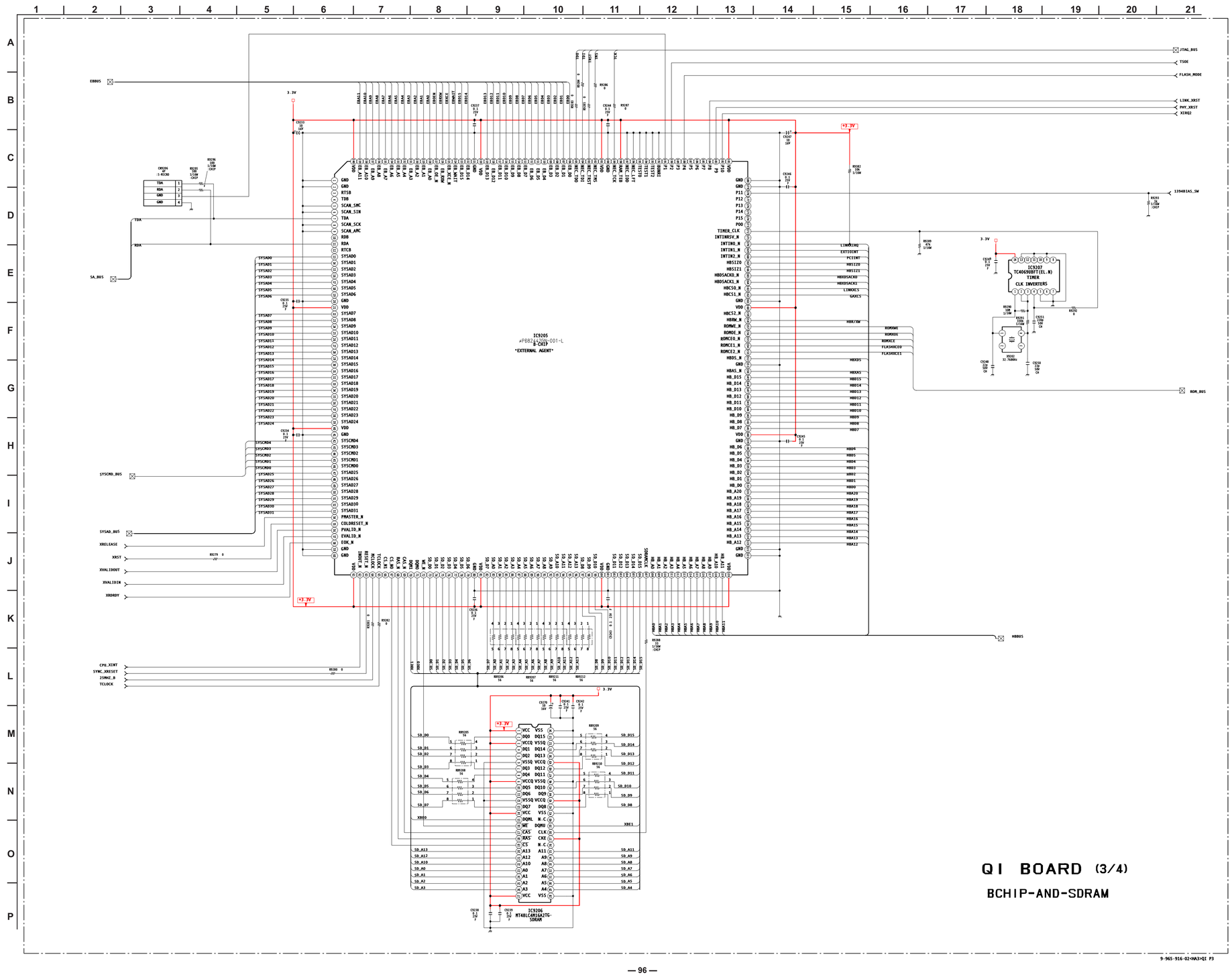
IC9204
LM358P
WR-12
CABLE BIAS
OP AMP5

ISOLATED_GND

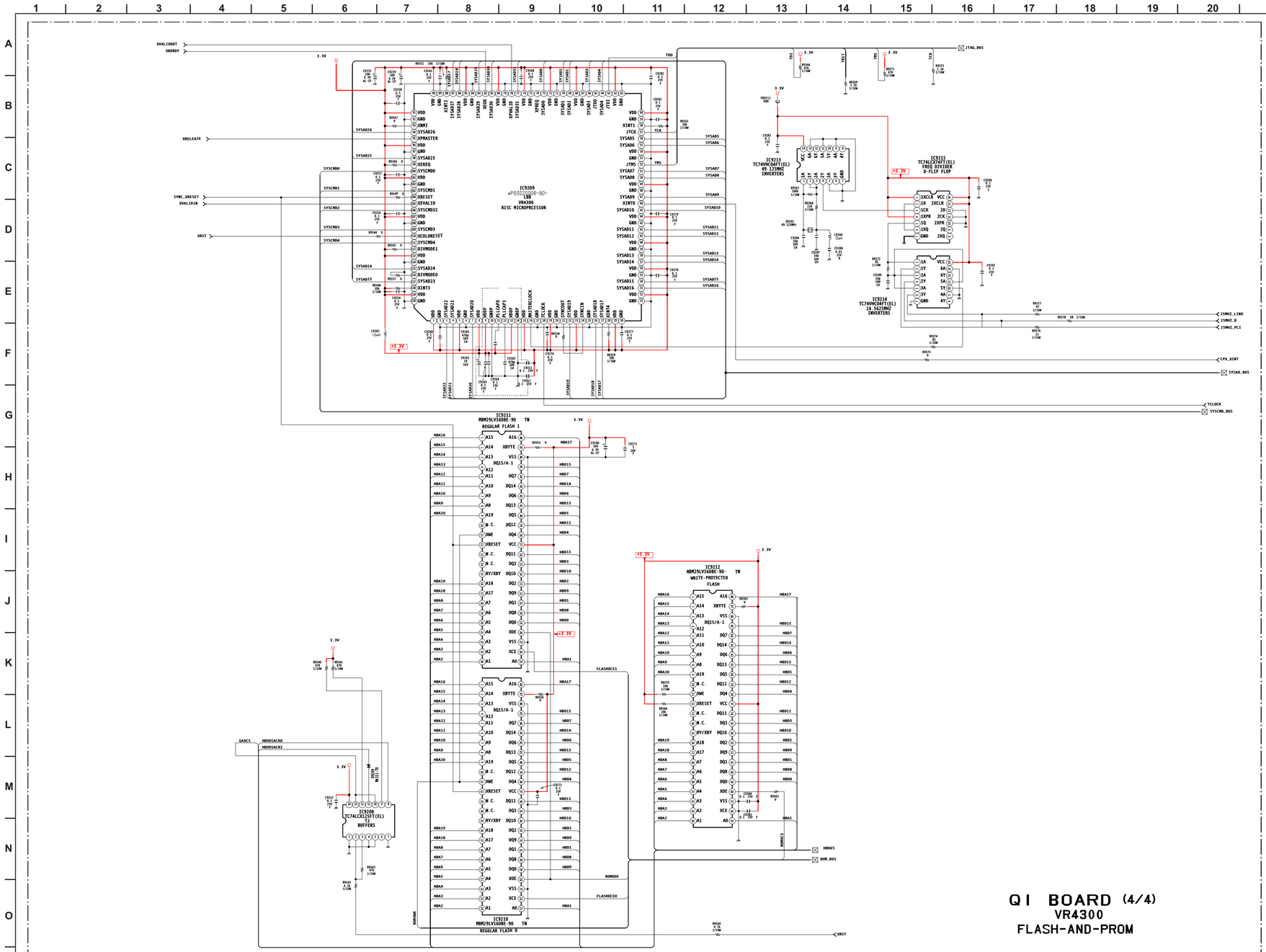
QI BOARD (2/4)

LINK-AND-PHY

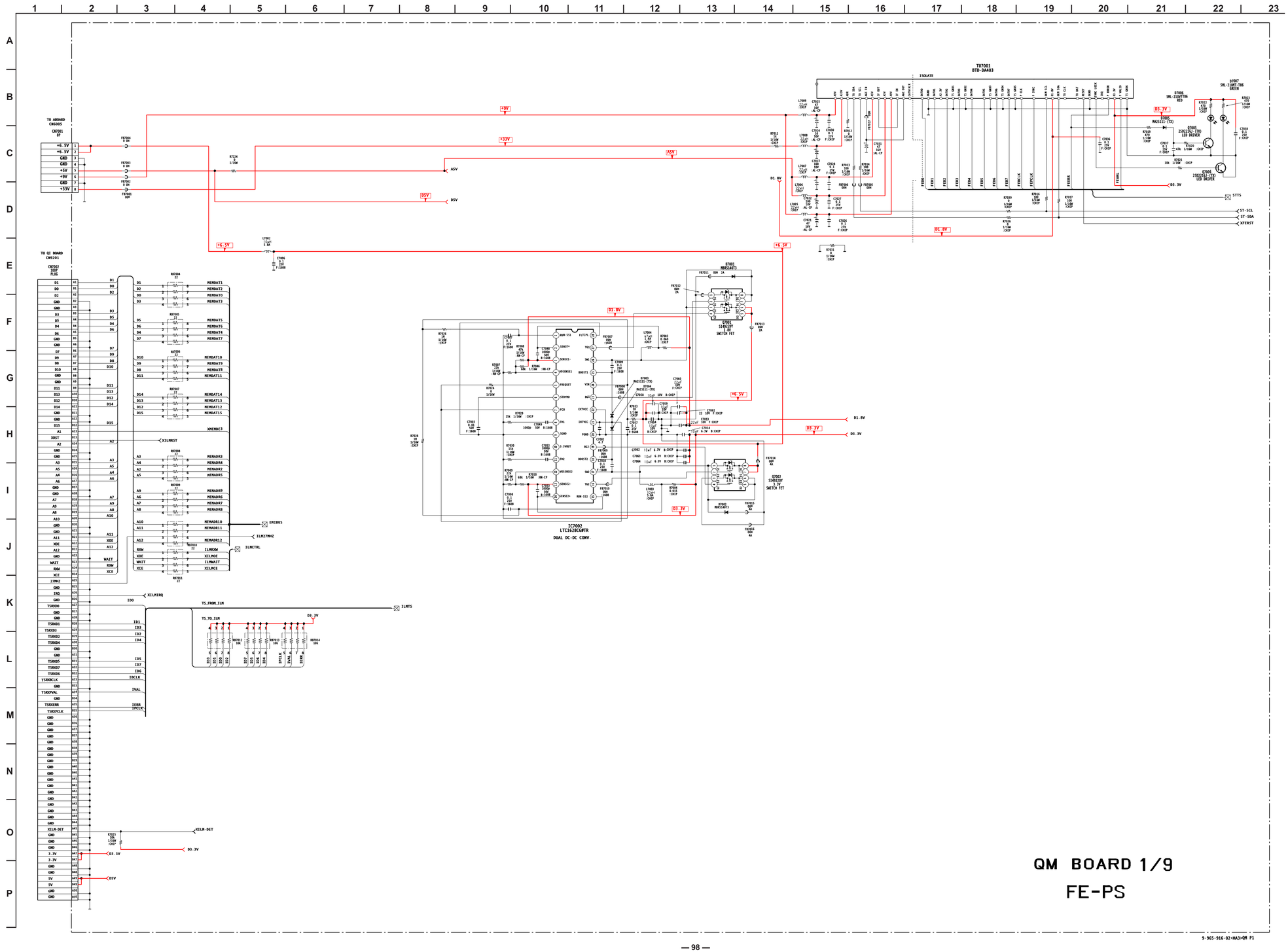
QI BOARD SCHEMATIC DIAGRAM (3 OF 4)



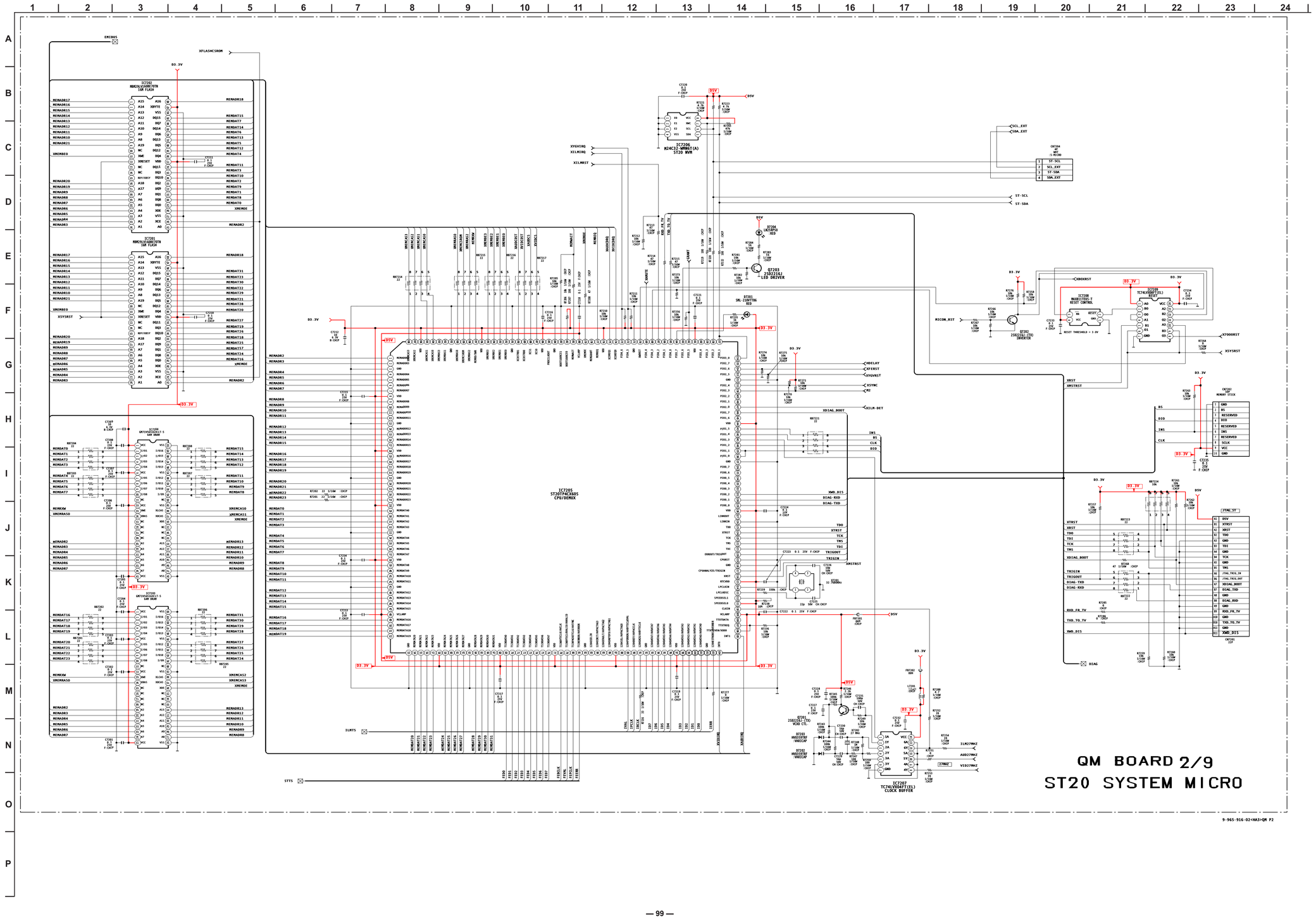
QI BOARD SCHEMATIC DIAGRAM (4 OF 4)



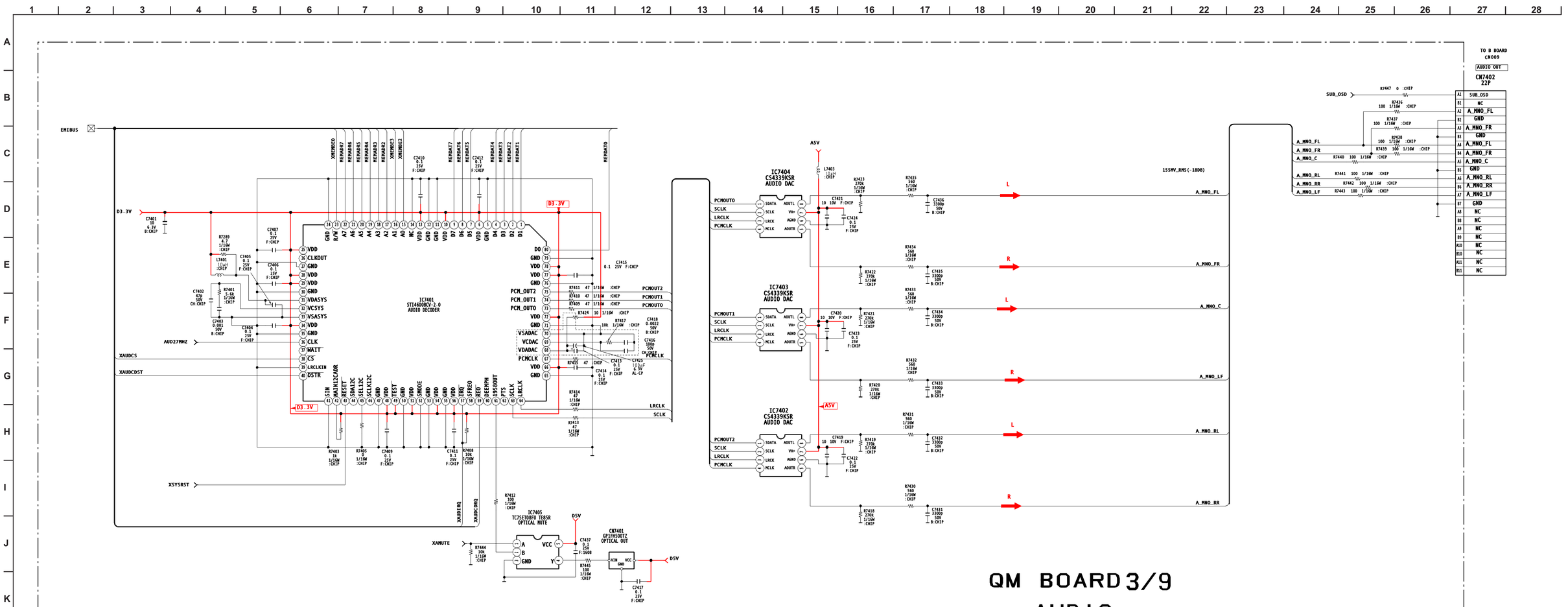
QM BOARD SCHEMATIC DIAGRAM (1 OF 9)



QM BOARD SCHEMATIC DIAGRAM (2 OF 9)


IC7202
MBM29LV160BE70TN
16M FLASH
IC7201
MBM29LV160BE70TN
16M FLASH
IC7204
GM71V65163CLT-5
64M SDRAM
IC7205
ST20TF4C6X05
CPU/DEMUX
IC7206
M24C32-WMN6T(A)
ST20 NVM
IC7207
TC74LVX04FT(EL)
CLOCK BUFFER
Q7203
2SD2216J
LED DRIVER
IC7208
BA6317EKV-E2
RESET CONTROL
IC7209
YC74LV08QT(EL)
RESET
Q7201
2SB1218J-(TX)
VCXO CTL
Q7202
2SB1218J-(TX)
INVERTER
Q7203
2SB1218J-(TX)
VCXO CTL
XFLASHCSROM
ERIBUS
D3.3V
D5V
X6VDIRQ
X1LMRST
SCL_EXT
SDA_EXT
ST-SCL
ST-SDA
X8XXRST
MICOM_RST
X7000RST
XSYSRST
XRST
XMSTRST
XDIAG_BOOT
XMD_DIS
TRIGIN
TRIGOUT
DIAG-TXD
DIAG-RXD
TMS
TDI
TDO
TCK
XTRST
ILMRST
ILMRSTS
STTS
DIAG
XMEMRD2
XMEMRD3
XMEMWR0
XMEMWR1
XMEMWR2
XMEMWR3
XMEMRD0
XMEMRD1
XMEMCAS0
XMEMCAS1
XMEMCAS2
XMEMCAS3
XMEMMODE
XMEMRESET
XMEMBUSREQ
XMEMBUSACK
XMEMWAIT
XMEMINT
XMEMNMI
XMEMBOOT
XMEMREQ
XMEMCLKOUT
XMEMCLKIN
XMEMPLLOUT
XMEMPLLIN
XMEMPLLSPEED
XMEMPLLCAP
XMEMPLLVCC
XMEMPLLGND
XMEMPLLFILT
XMEMPLLRES
XMEMPLLTEST
XMEMPLLBYPASS
XMEMPLLLOCK
XMEMPLLRESET
XMEMPLLSTOP
XMEMPLLSTOPACK
XMEMPLLSTOPREQ
XMEMPLLSTOPREQACK
XMEMPLLSTOPREQ
XMEMPLLSTOPACK
XMEMPLLSTOPREQ
XMEMPLLSTOPACK
XMEMPLLSTOPREQ
XMEMPLLSTOP

QM BOARD SCHEMATIC DIAGRAM (3 OF 9)



QM BOARD 3/9
AUDIO

QM BOARD SCHEMATIC DIAGRAM (4 OF 9)

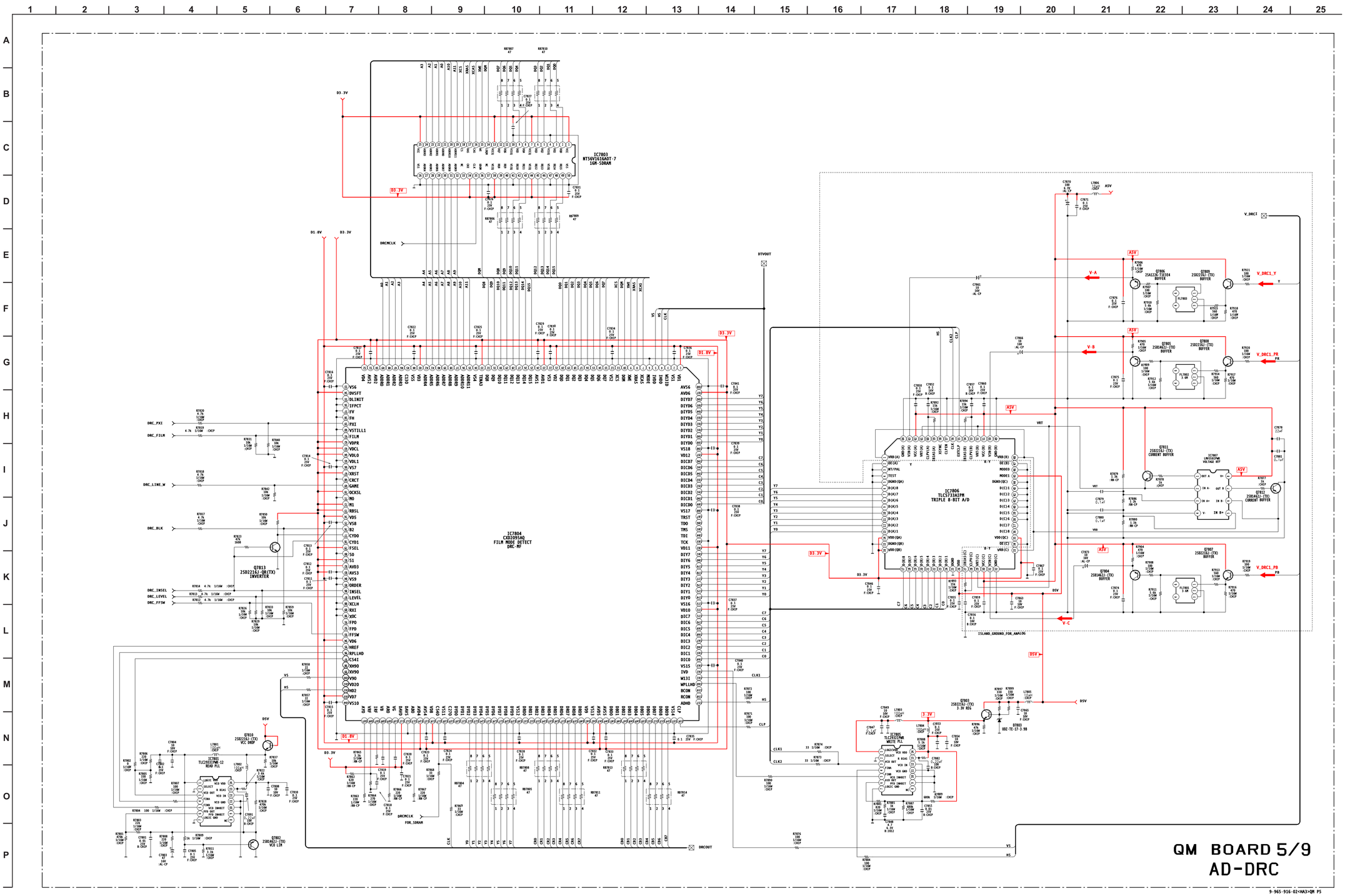
IC7602 TC59S6432CFT-80(YB) 64M-SDRAM

IC7603 STI7000AQA VIDEO DECODER

IC7604 EPM312ATC100-5 V1.0 VIDEO MUX/ CTL.PLD

QM BOARD4/9
VIDEO DECODE MPEG

QM BOARD SCHEMATIC DIAGRAM (5 OF 9)

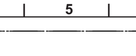
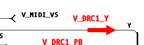


QM BOARD 5/9
AD-DRC

9-965-916-02<MA3>QM P5

QM BOARD SCHEMATIC DIAGRAM (6 OF 9)

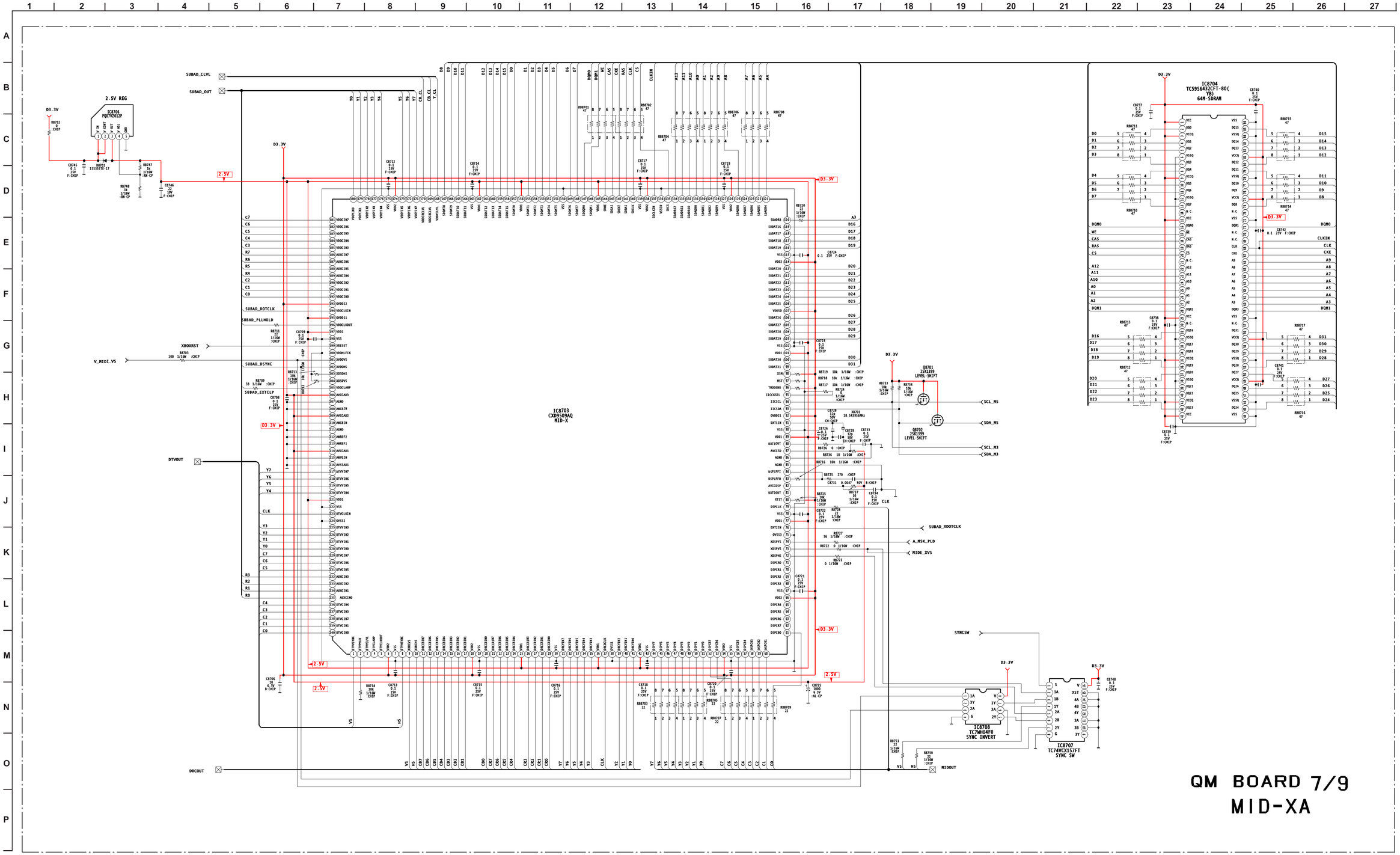
QM BOARD WAVEFORMS (SCHEMATIC 6 OF 9)

1 1.5 Vp-p (H)	2  1.1 Vp-p (H)
3 1.3 Vp-p (H)	4 3.5 Vp-p (H)
5 3.3 Vp-p (V)	6 1.5 Vp-p (H)
7  1.1 Vp-p (H)	8 1.1 Vp-p (H)
9 3.4 Vp-p (H)	10 3.4 Vp-p (V)

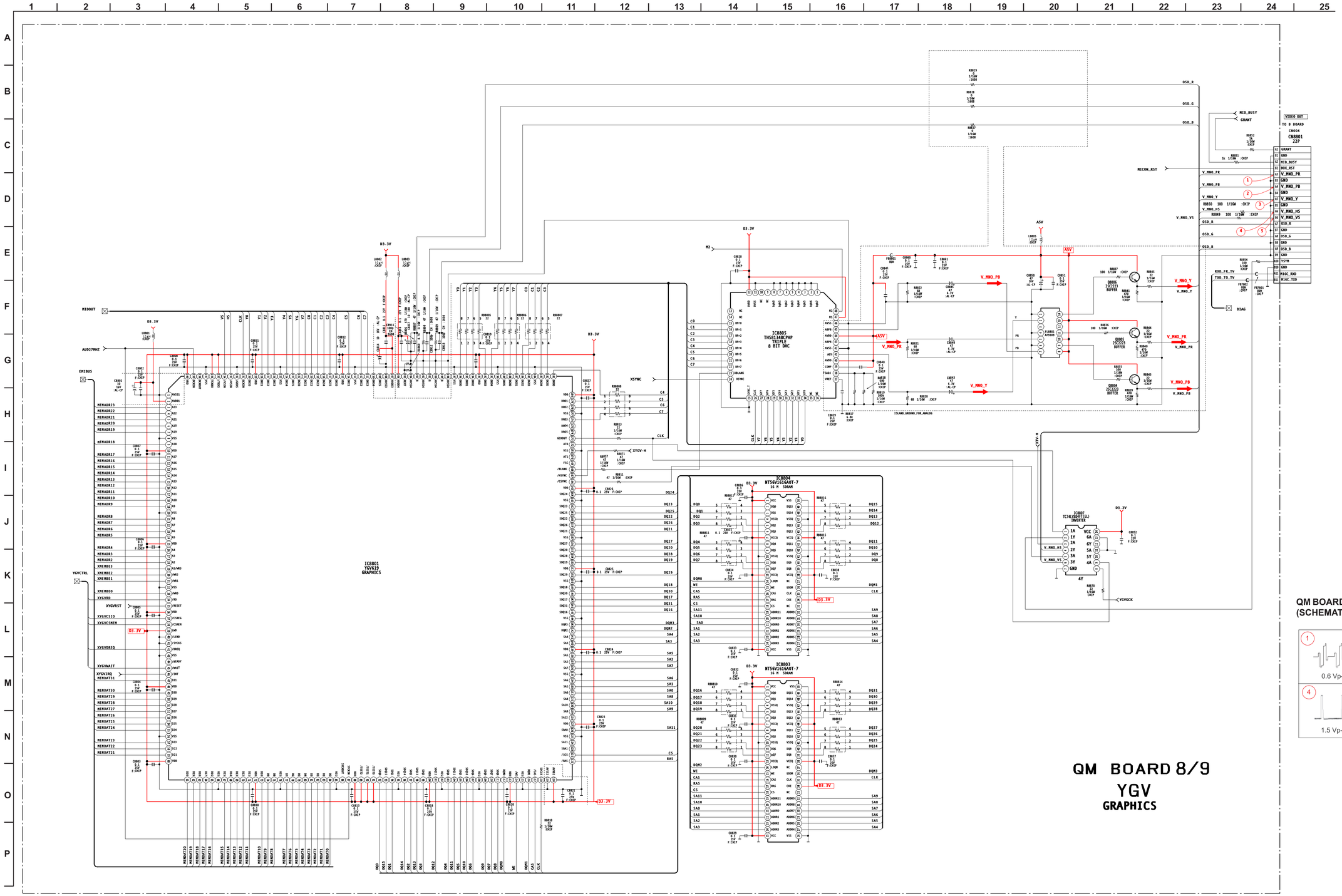
QM BOARD 6/9
HD-ADC
QM BOARD

9-965-916-02<NA3>QM P6

QM BOARD SCHEMATIC DIAGRAM (7 OF 9)

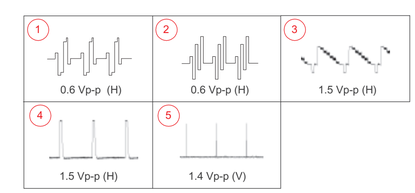


QM BOARD SCHEMATIC DIAGRAM (8 OF 9)



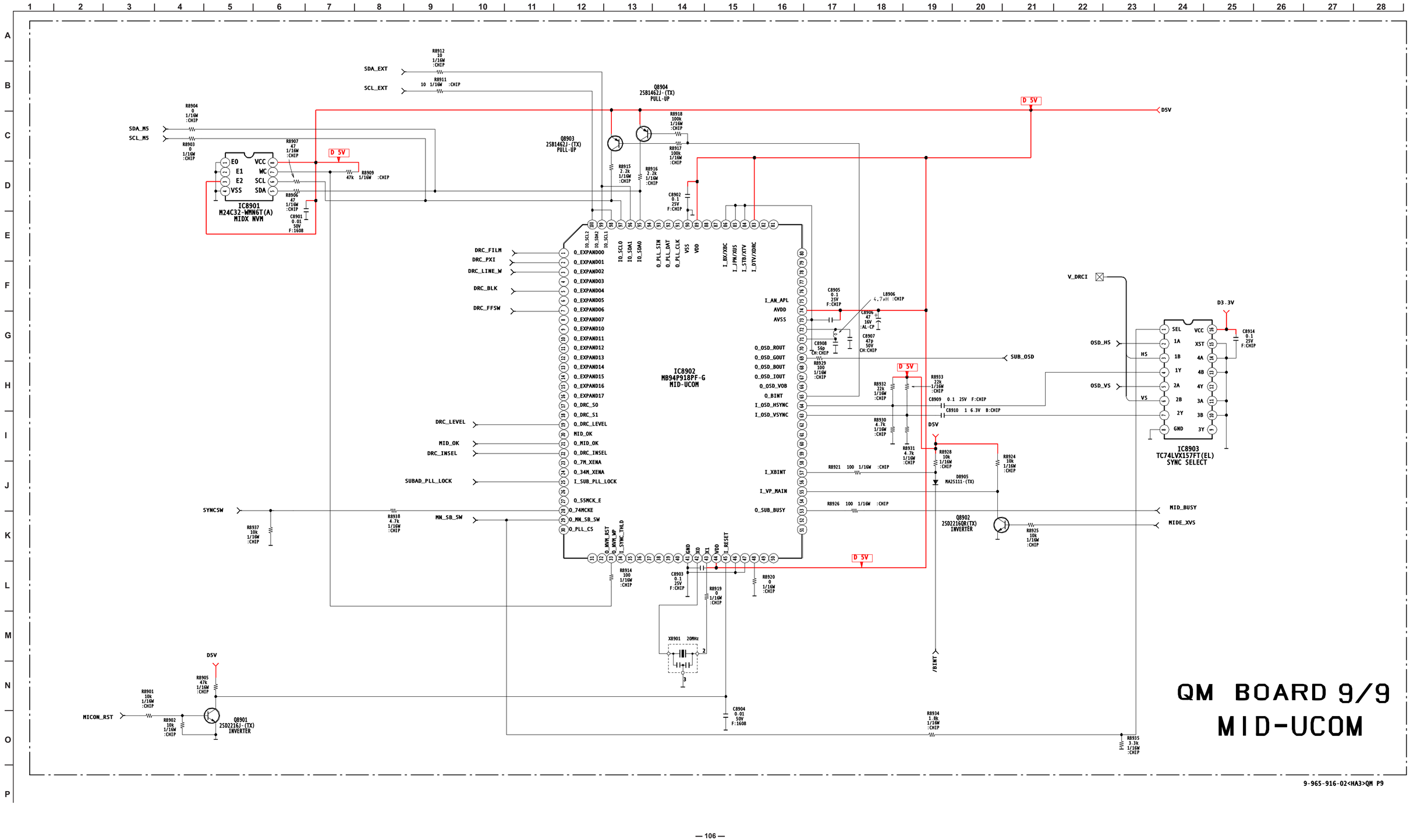
QM BOARD 8/9
YGV
GRAPHICS

QM BOARD WAVEFORMS
(SCHEMATIC 8 OF 9)



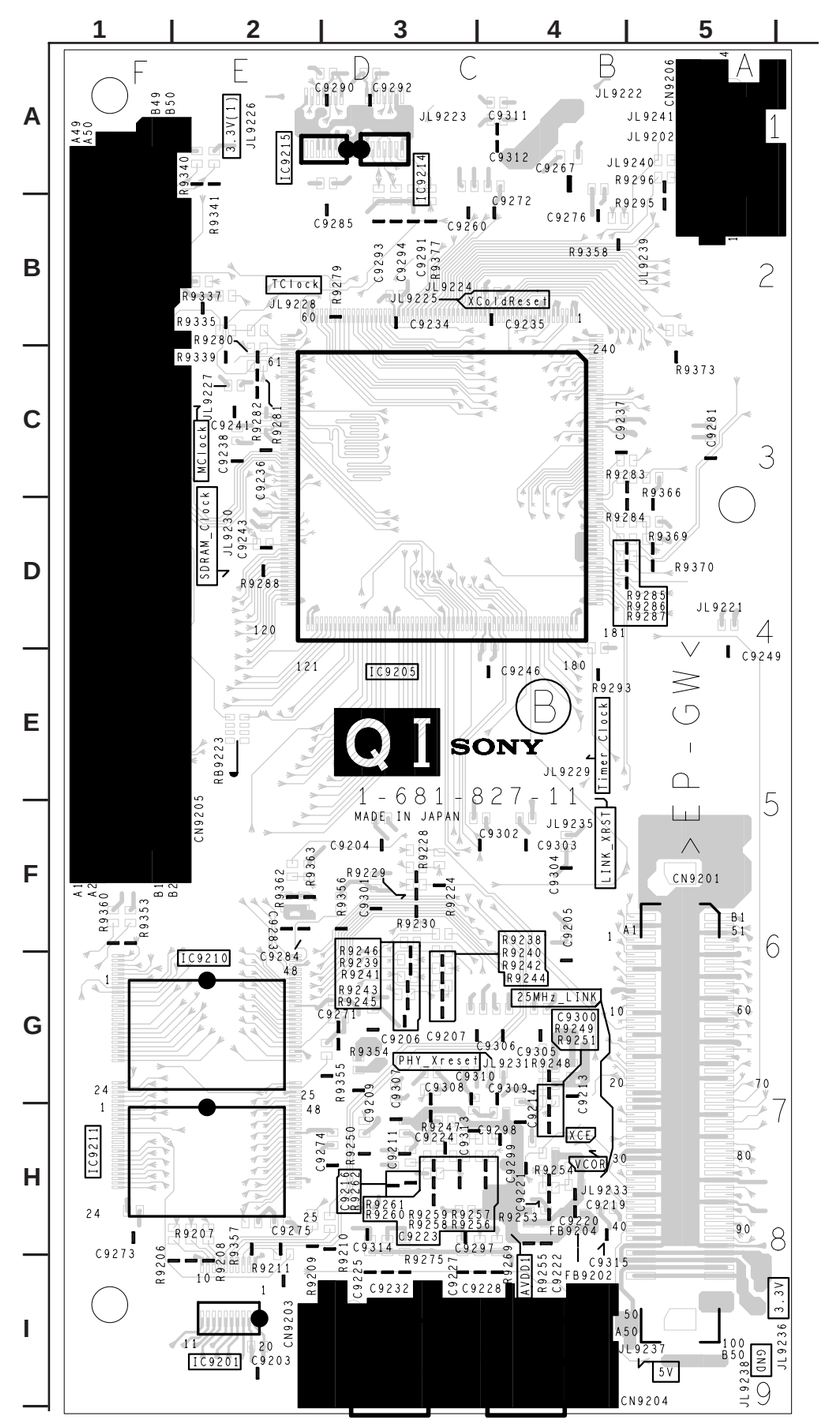
9-965-916-02<HA3>QM P8

QM BOARD SCHEMATIC DIAGRAM (9 OF 9)



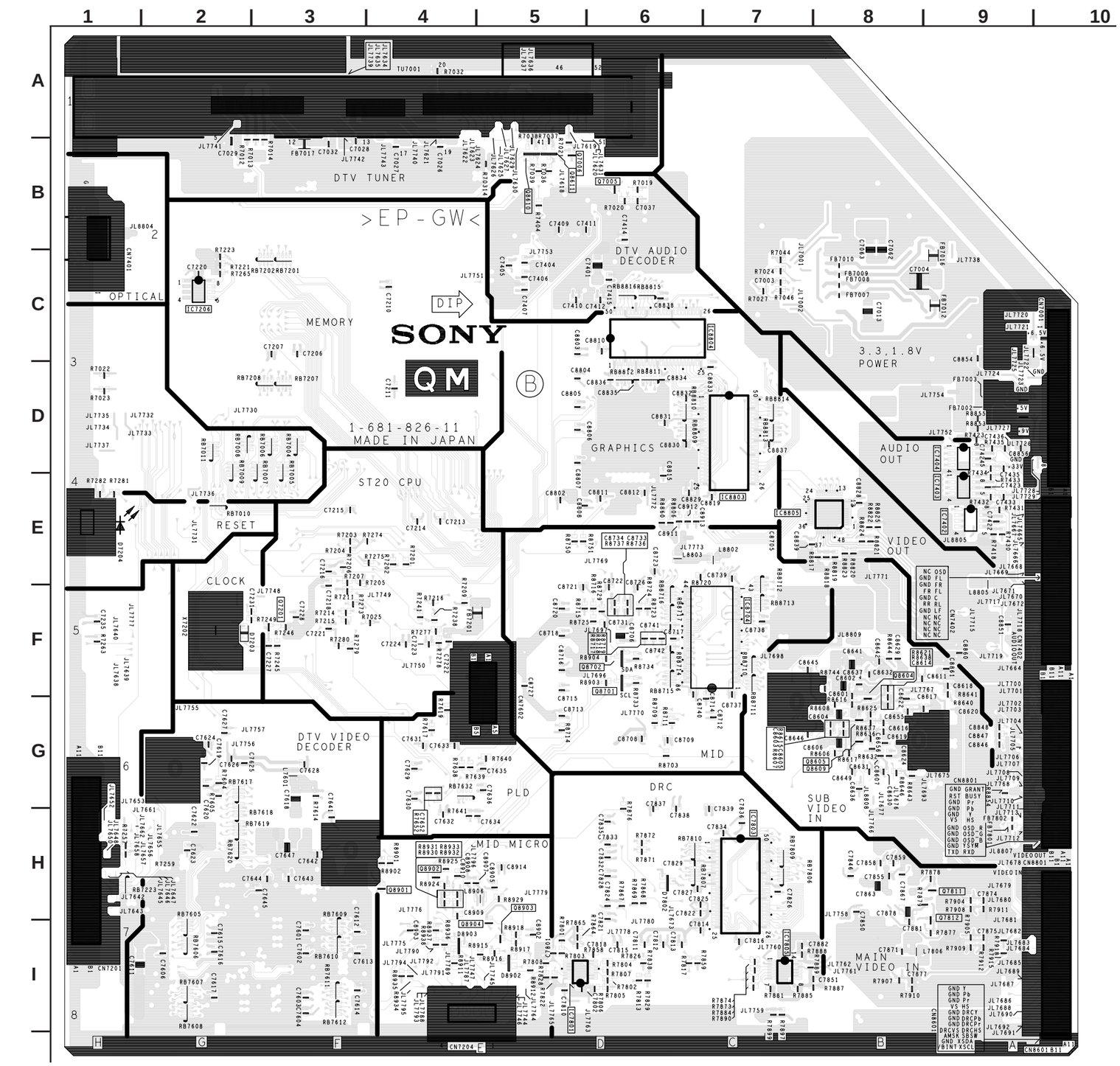
QI [BOARD TO BOARD CONNECTOR, LINK-AND-PHY, B-CHIP-AND-SDRAM, FLASH-AND-PROM]

COMPONENT SIDE



QM [FE-PS, ST-20 SYSTEM MICRO, AUDIO, VIDEO DECODE, MPEG, AD-DRC, HD-ADC, MID-XA, YGV GRAPHICS, MID-UCOM]

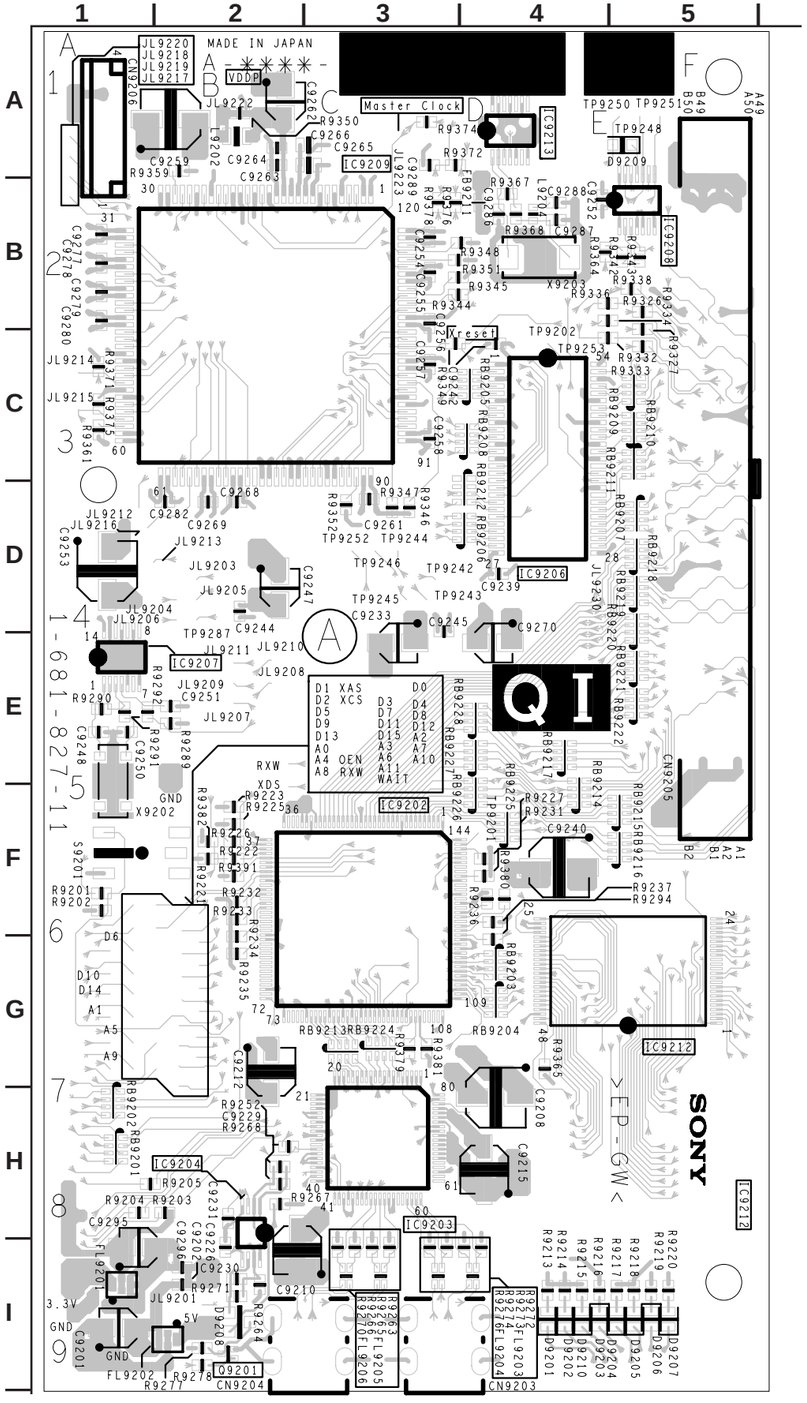
COMPONENT SIDE



QI

[BOARD TO BOARD CONNECTOR, LINK-AND-PHY, B-CHIP-AND-SDRAM, FLASH-AND-PROM]

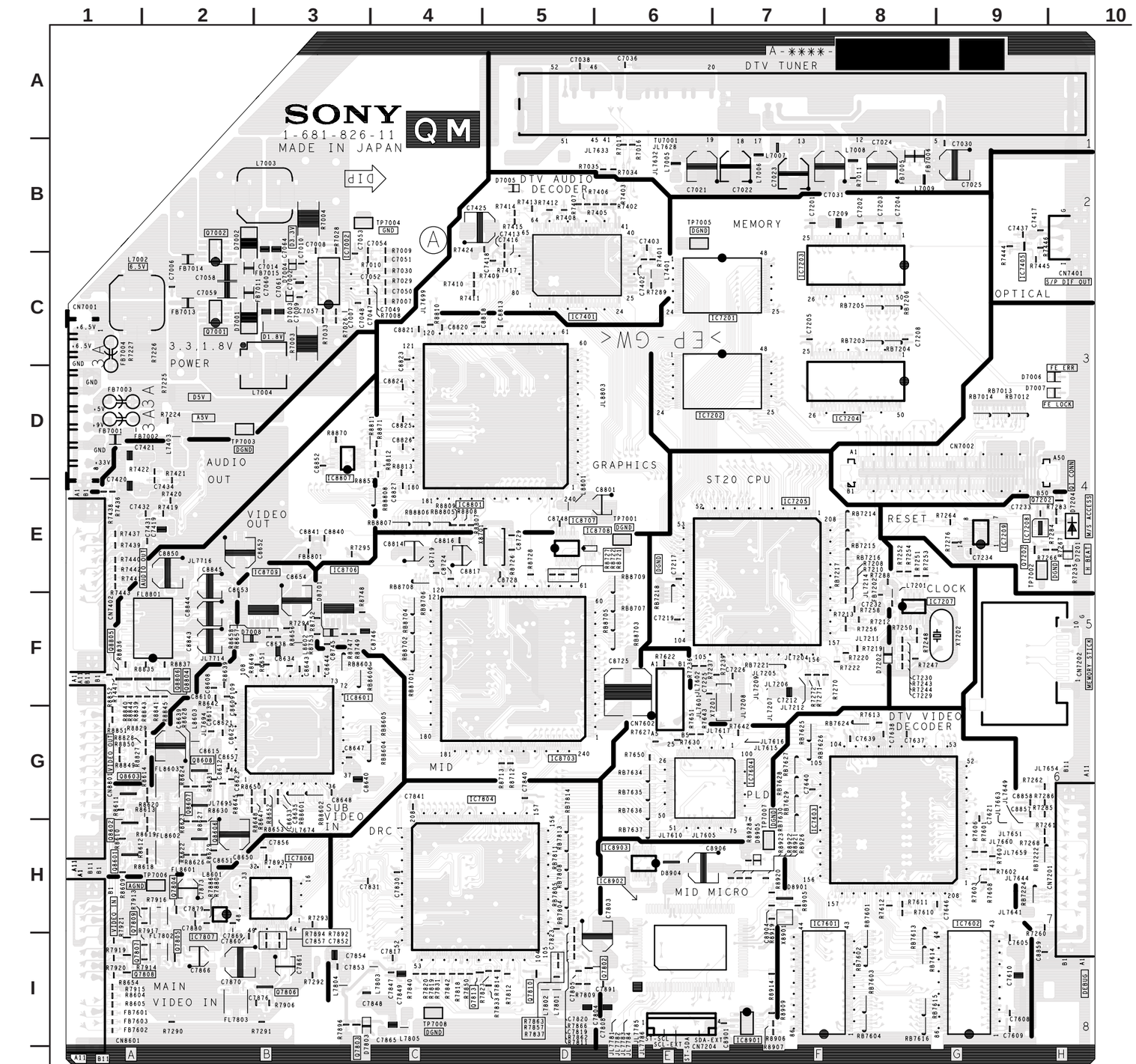
CONDUCTOR SIDE



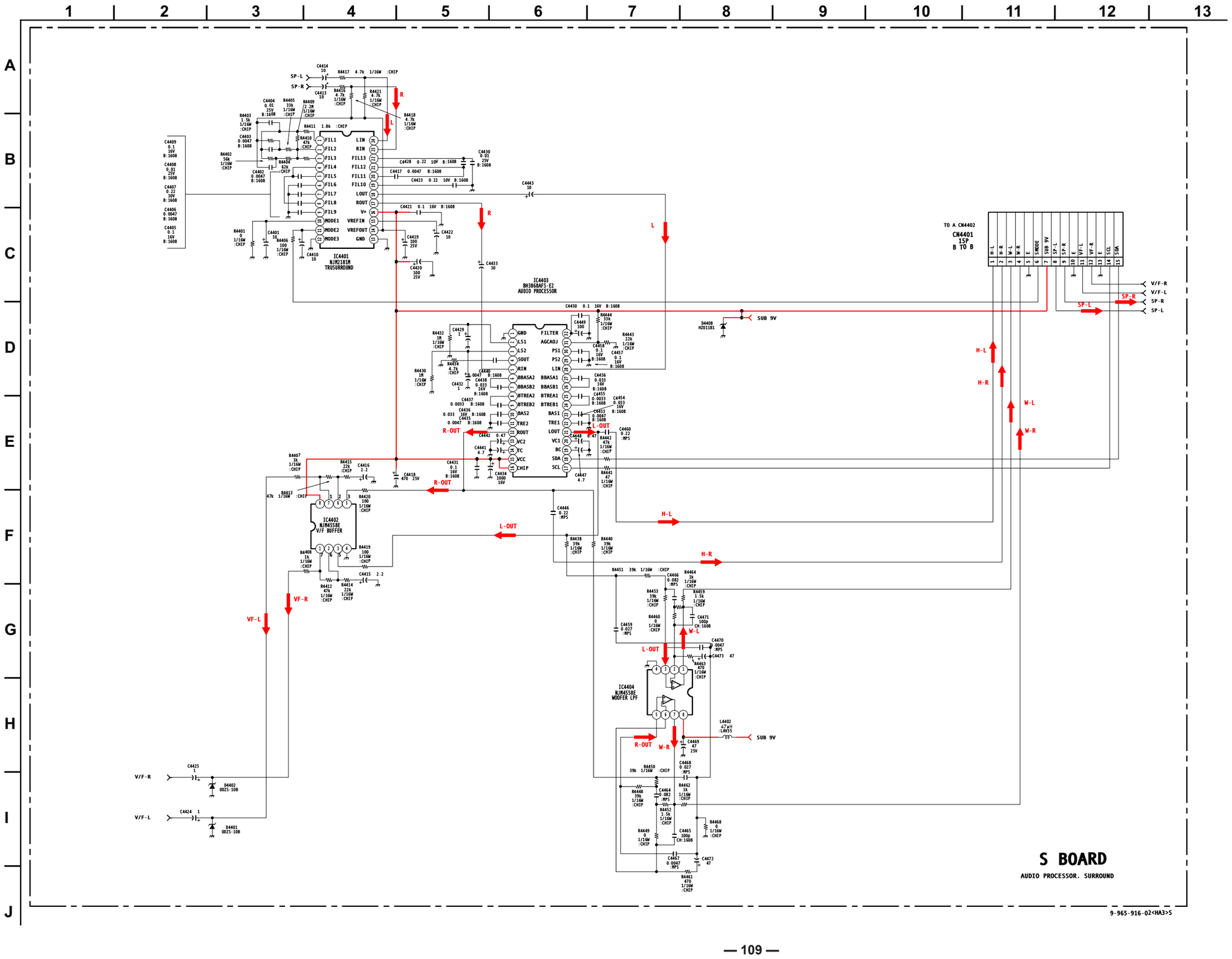
QM

[FE-PS, ST-20 SYSTEM MICRO, AUDIO, VIDEO DECODE, MPEG, AD-DRC, HD-ADC, MID-XA, YGV GRAPHICS, MID-UCOM]

CONDUCTOR SIDE



S BOARD SCHEMATIC DIAGRAM

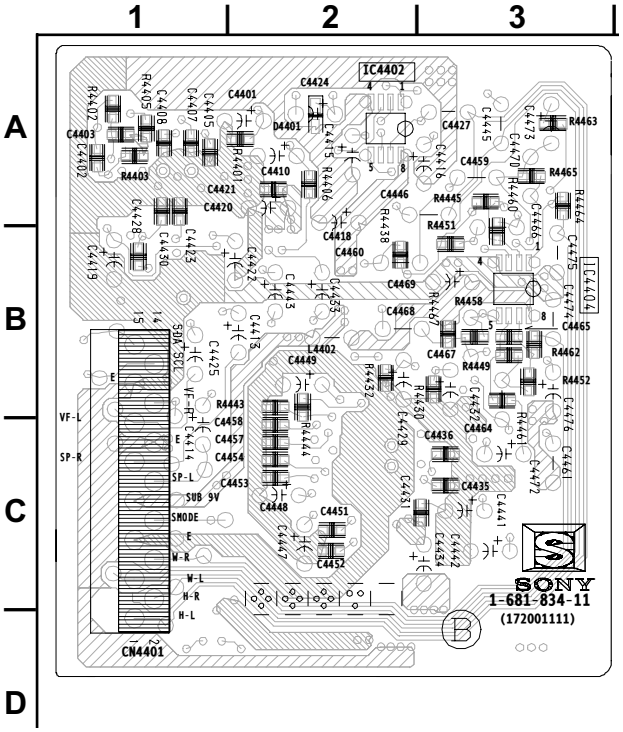


S BOARD IC VOLTAGE LIST

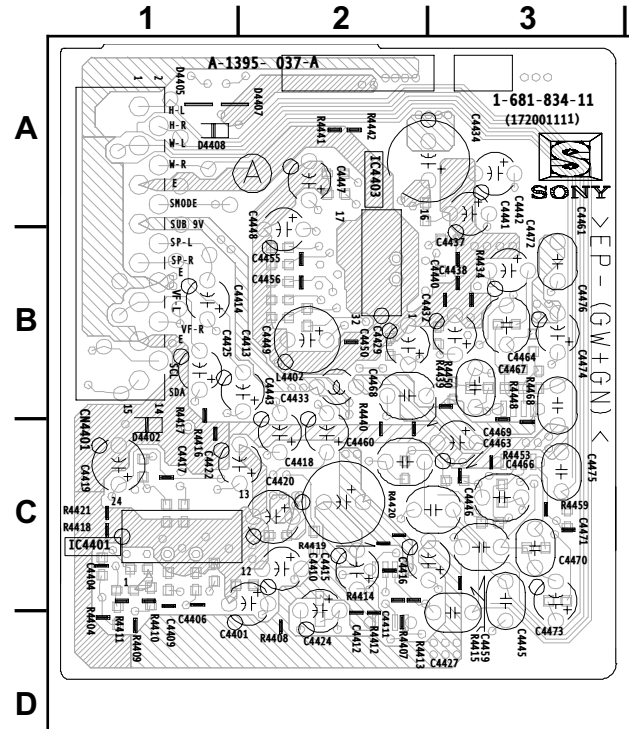
IC4101		5	4.5	27	4.5
pin	volt	6	4.5	28	4.5
1	4.5	7	4.5	29	4.5
2	4.3	8	9.0	30	4.5
3	4.5	IC4103		31	3.6
4	4.5	pin	volt	32	4.5
5	4.5	1	GND	IC4104	
6	4.5	2	0.0	pin	volt
7	4.5	3	0.0	1	4.5
8	4.5	4	4.5	2	4.5
9	4.5	5	4.5	3	4.5
10	0.0	6	4.5	4	GND
11	0.0	7	4.5	5	4.5
12	GND	8	4.5	6	4.5
13	GND	9	4.5	7	4.5
14	4.5	10	4.5	8	9.0
15	4.5	11	4.5	All voltages are in V.	
16	9.0	12	4.5		
17	4.5	13	1.6		
18	4.5	14	2.0		
19	4.5	15	9.0		
20	4.5	16	9.0		
21	4.5	17	4.6		
22	4.5	18	4.5		
23	4.5	19	2.0		
24	4.5	20	1.5		
IC4102		21	4.5		
pin	volt	22	4.5		
1	4.5	23	4.5		
2	4.5	24	4.5		
3	4.5	25	4.5		
4	GND	26	4.5		

S [AUDIO PROCESSOR, SURROUND]

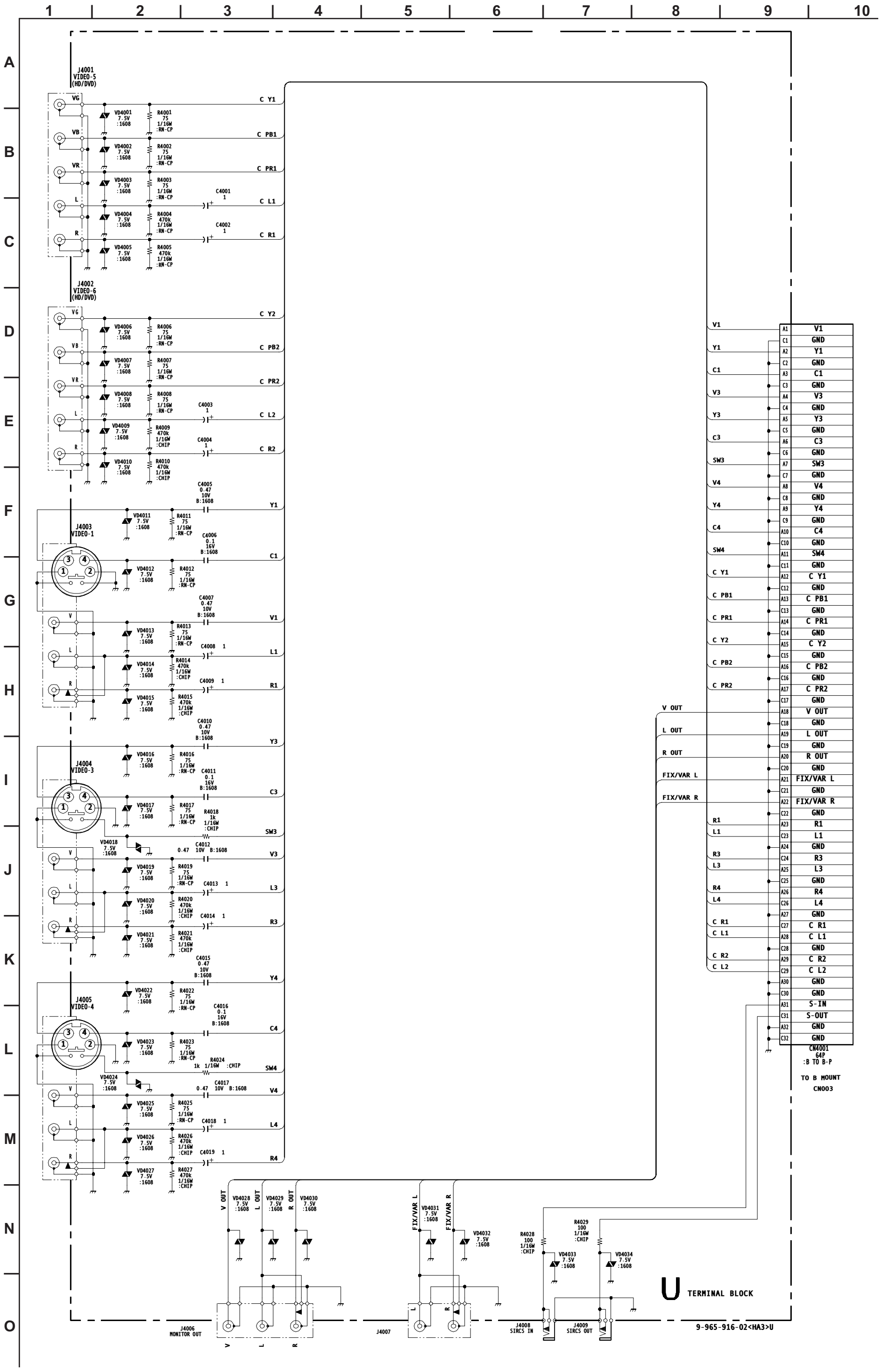
COMPONENT SIDE



CONDUCTOR SIDE

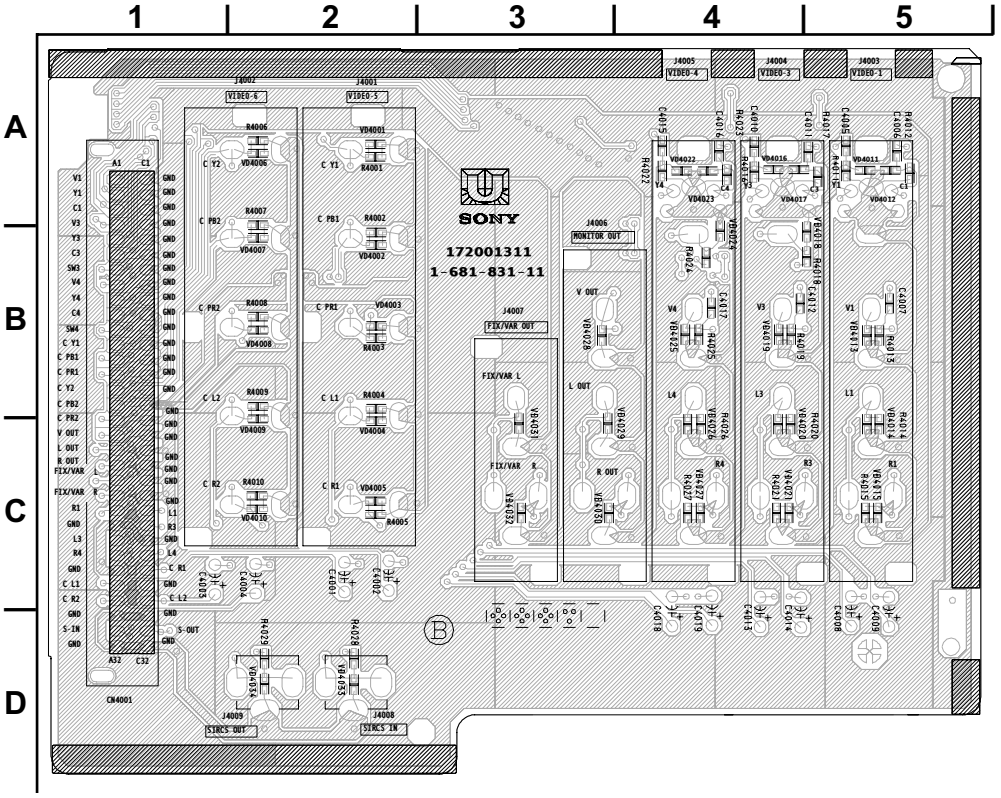


U BOARD SCHEMATIC DIAGRAM

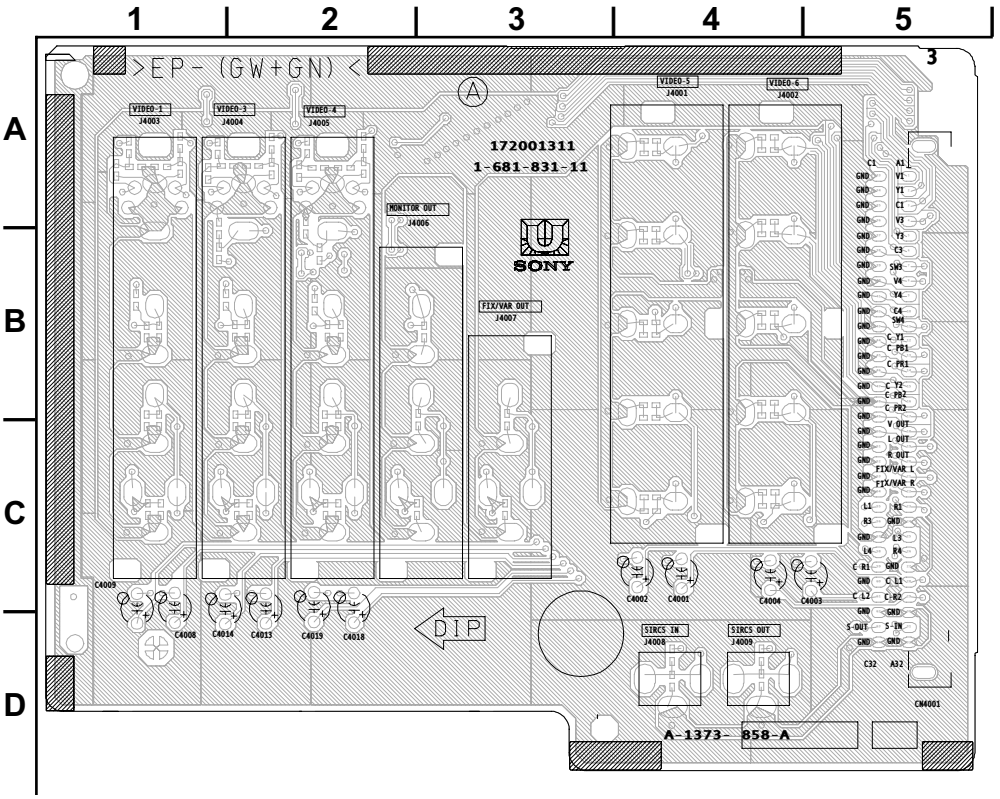


U [TERMINAL BLOCK]

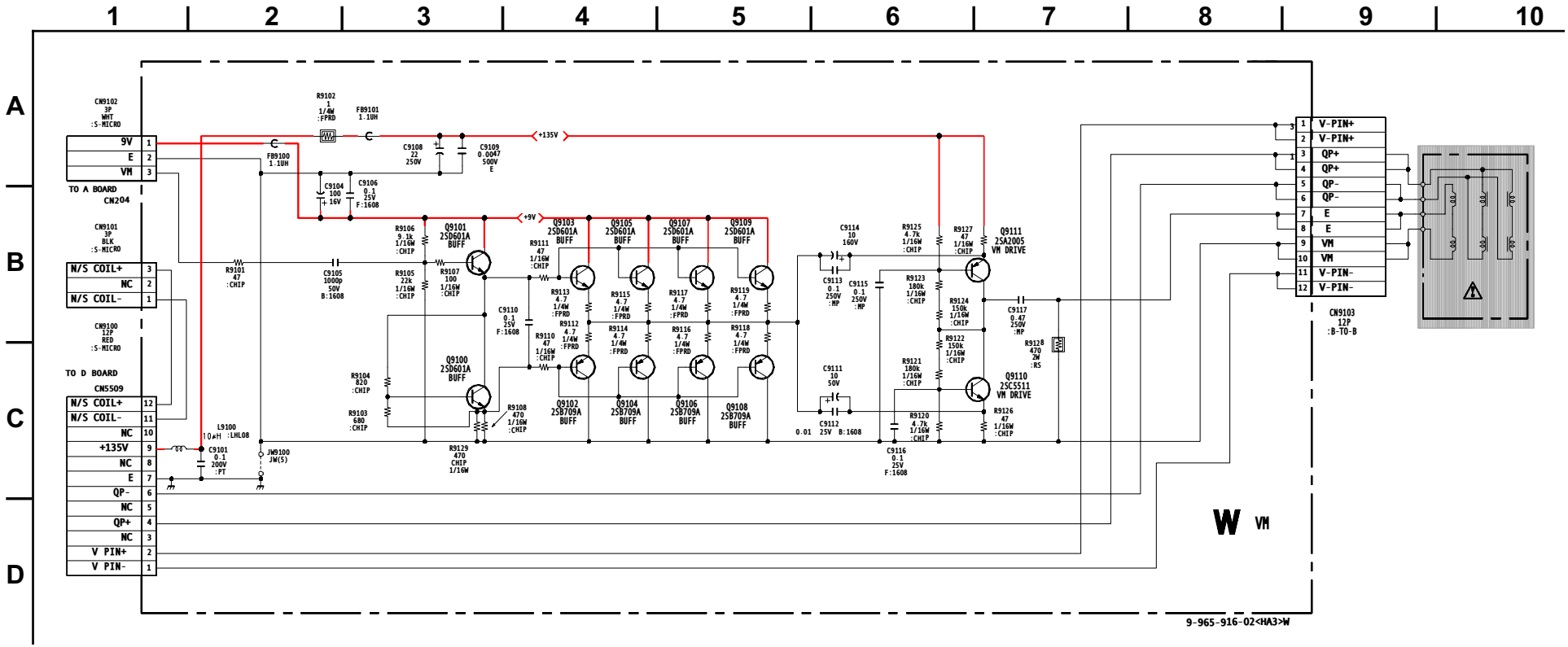
COMPONENT SIDE



CONDUCTOR SIDE



W BOARD SCHEMATIC DIAGRAM



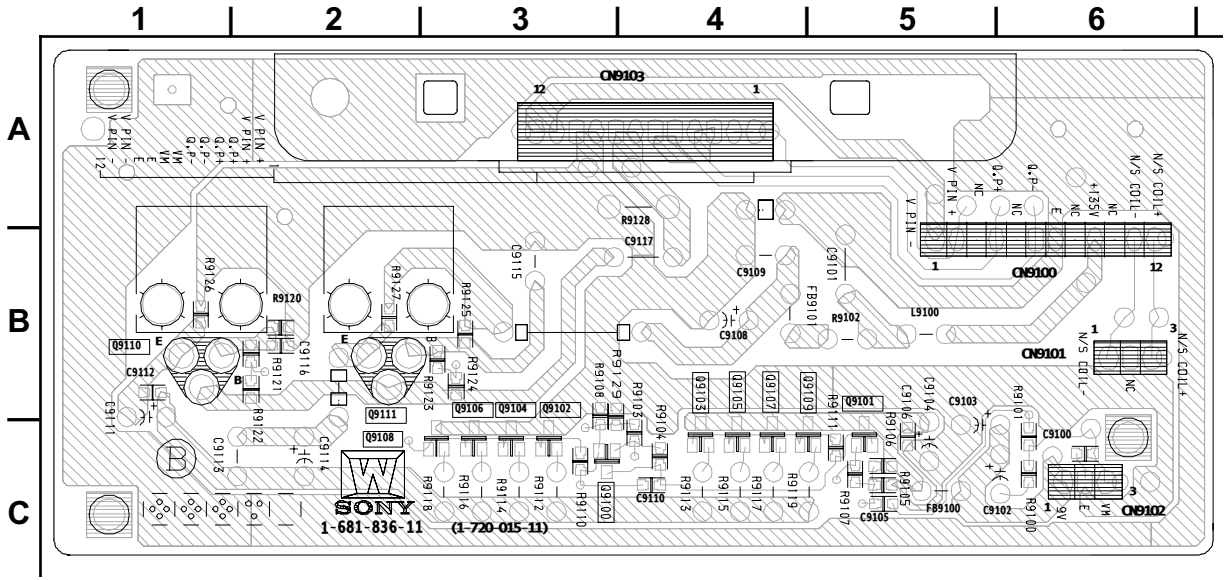
W BOARD TRANSISTOR VOLTAGE LIST

Q9102	3.6	GND	4.3
Q9103	5.5	9.0	4.9
Q9104	3.6	GND	4.3
Q9105	5.5	9.0	4.9
Q9106	3.6	GND	4.3
Q9107	5.5	9.0	4.9
Q9108	3.6	GND	4.3
Q9109	5.5	9.0	4.9
Q9110	0.6	68.9	0.0
Q9111	133.7	68.9	134.2

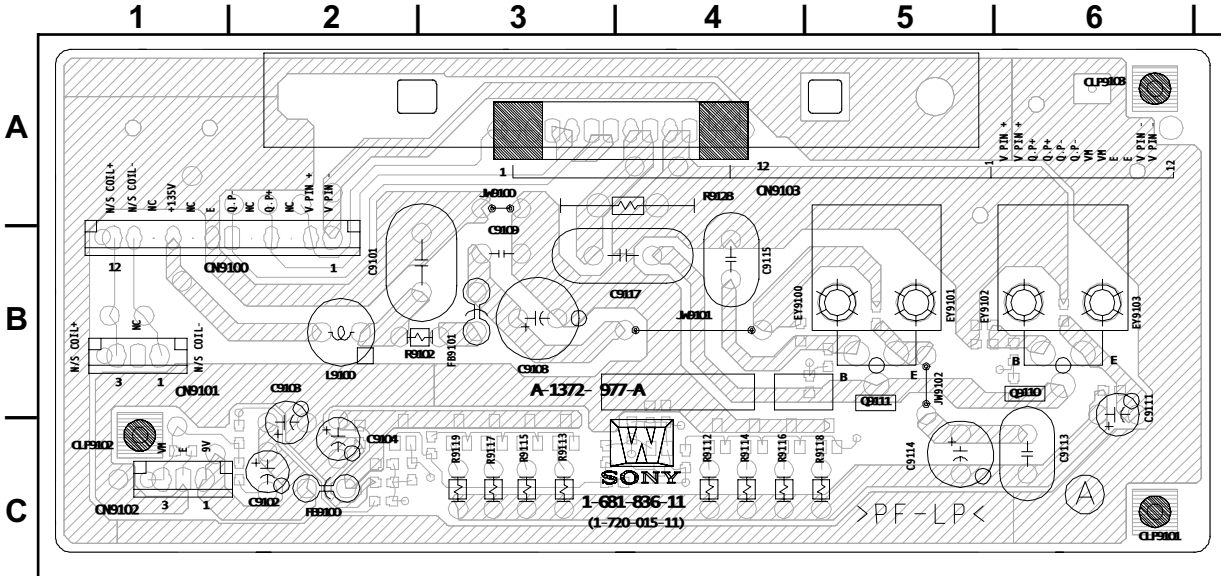
All voltages are in V.

W [VM]

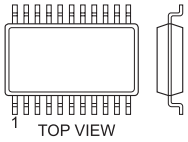
COMPONENT SIDE



CONDUCTOR SIDE

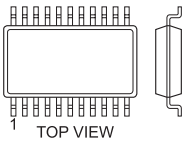


12-4. SEMICONDUCTORS



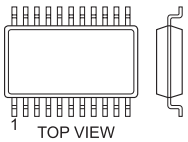
8pin

BR24C04F-WE2
BR24C08
NJM2901M-TE2
NJM2903M
NJM2904M
NJM4558E(TE2)
TC7WU04FU(TE12R)
TDA2822D



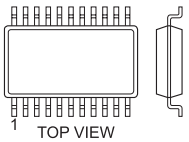
14pin

M52055FP
MC74HC4066F
TLC2932IPW
TLC2933IPWR-12



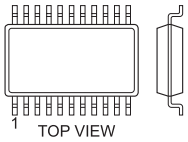
16pin

CXD2085M-T4
SN74LV4053ANSR



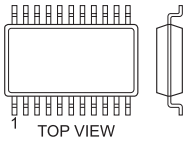
28pin

CXD2057M-T6
TEA6422DT



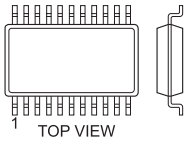
32pin

BH3868AFS-E2



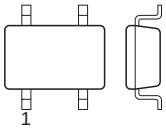
50pin

MSM56V16160F-10TS-K



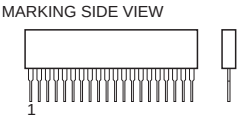
86pin

MB81F643242B-10FN



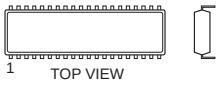
5pin

PST9120NL
PST9145NL
TC7SET08FU(TE85L)



8pin

UPC1406HA



14pin

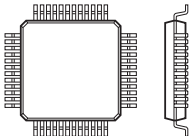
IR2112

18pin

MCZ3001D

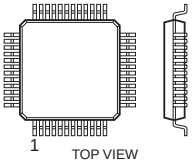
22pin

CXA2026AS



32pin

CXD2073Q-T4



48pin

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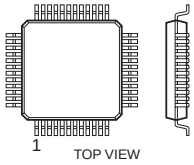
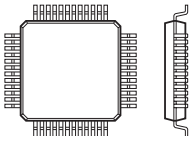
CXA2150Q
CXD2309Q



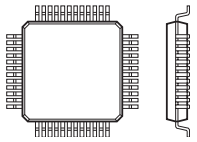
64pin

TLC5733AIPM



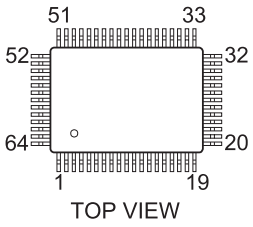
208pin

CXD2090Q

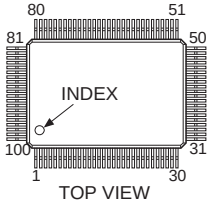


240pin

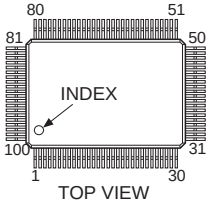
CXD9509AQ



CXA2069Q

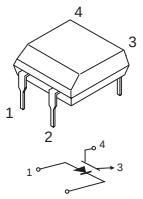


CXA2150Q

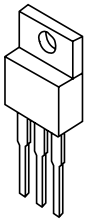


MB94918-DX1MID
M306V2ME-102FP

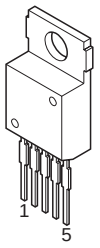
SEMICONDUCTORS (continued)



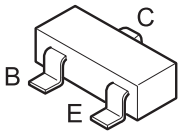
PC123FV2



NJM79M12FA

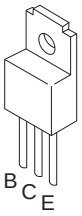


LA6500-FA



DTA114EKA-T146
DTA143EK
DTA144EKA-T146
DTC114EK

DTC114TKA-T146
DTC143EKA-T146
DTC144EKA-T146
2SA1162-G
2SA1226
2SC1623-L5L6
2SC4081-R
2SD601A-Q
2SD601A-Q-TX
2SD601A-S



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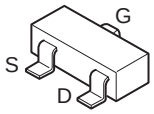

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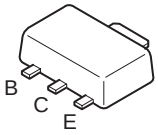

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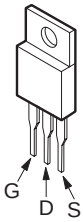

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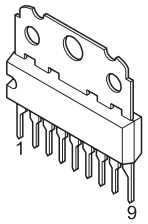

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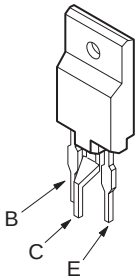

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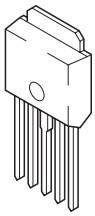
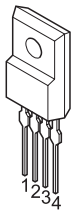


PQ07VZ012P



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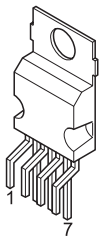
PQ05RF21
PQ09RF21
PQ12RF21
PQ30RF21



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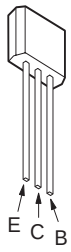

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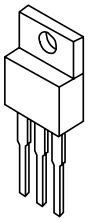

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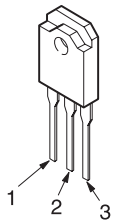
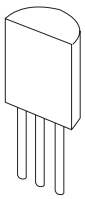


2SC3997S-SONY



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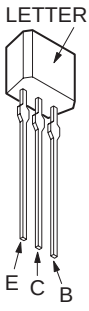
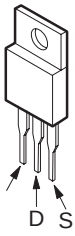
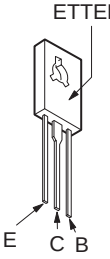


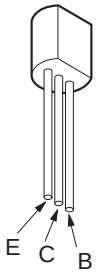
2SA1175-HFE
2SC3311A-QRSTA



IRFI9630GS



2SC2688-LK
2SC3840(3)



2SA1208S-TP

SECTION 13: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

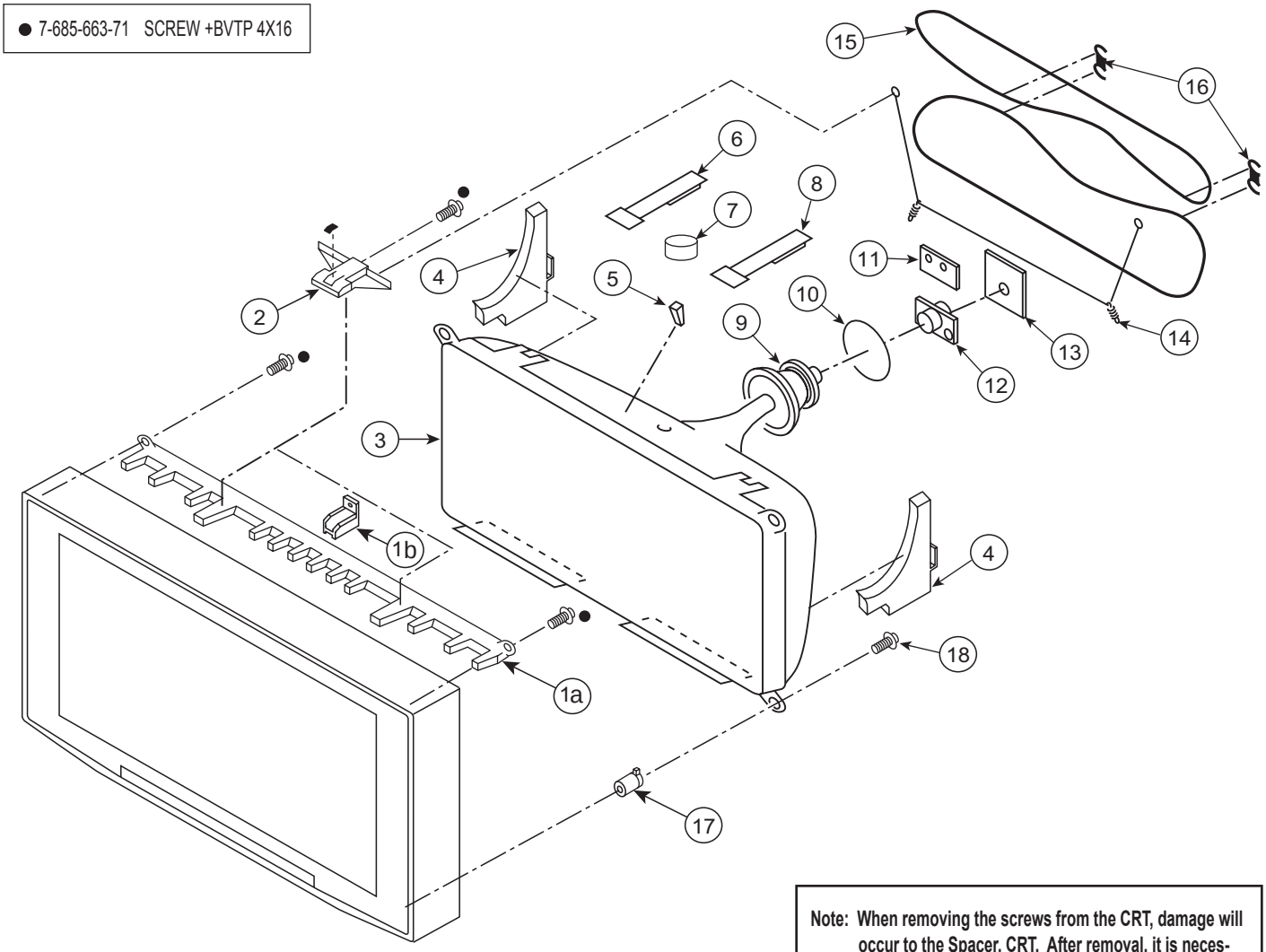
*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

13-1. PICTURE TUBE

● 7-685-663-71 SCREW +BVTP 4X16



Note: When removing the screws from the CRT, damage will occur to the Spacer, CRT. After removal, it is necessary to replace these components. (See 17, below)

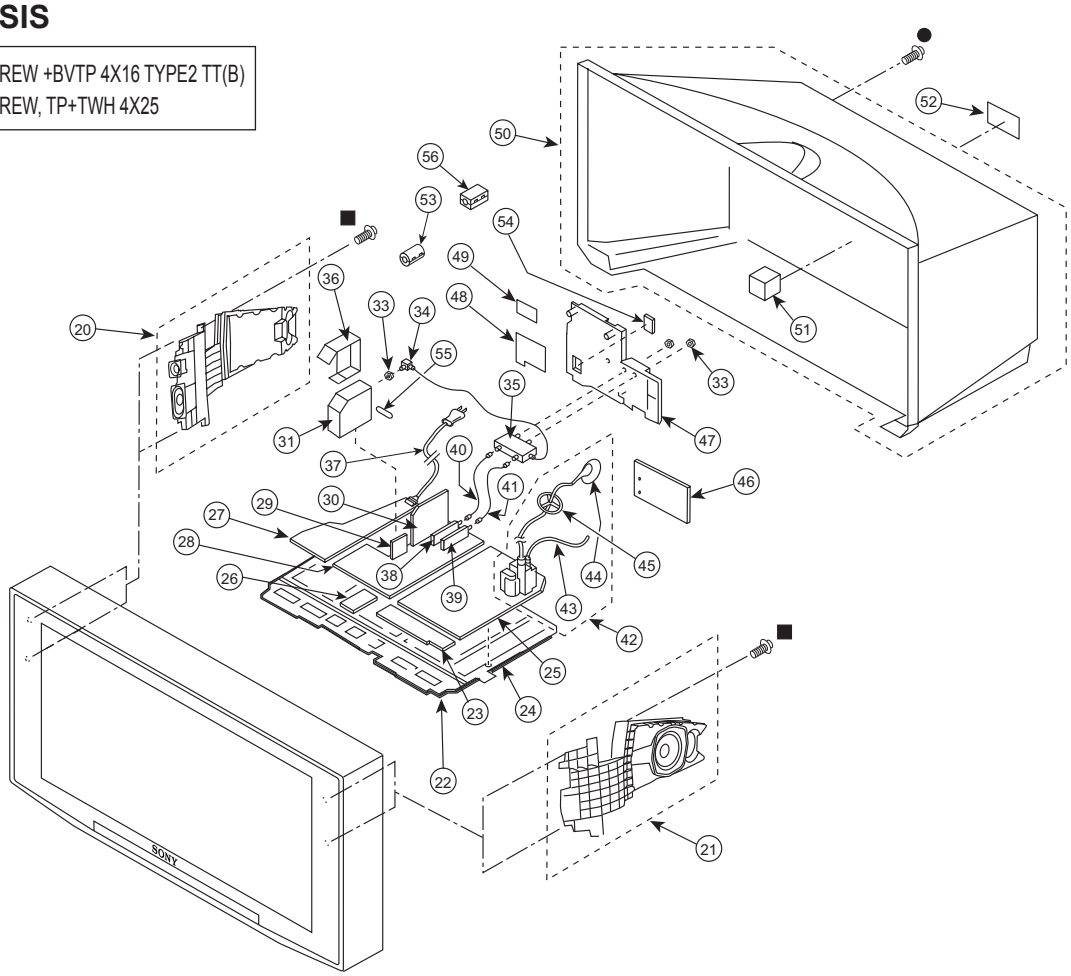
	REF.NO.	PART NO.	DESCRIPTION
	1a	4-080-281-04	BEAM
	1b	X-4038-679-3	SPACER -36 ASSY
	2	X-4038-670-2	HOLDER, DGC ASSY
⚠	3	8-735-060-05	CRT 36RV2
	4	4-064-944-01	SUPPORTER, CRT
	5	4-053-005-01	SPACER, DY
	6	4-083-414-01	PIECE A(110), CONV CORRECT
	7	1-452-032-00	MAGNET,DISC
	8	4-051-734-21	PIECE B(120), CONV. CORRECT
⚠	9	8-451-498-22	DY Y36RVC-M2
	10	1-451-498-31	COIL, NA ROTATION
*	11	A-1372-977-A	W BOARD, MOUNTED
⚠	12	8-453-009-21	NA325-M2 (NECK ASSEMBLY)
*	13	A-1332-184-A	C BOARD, MOUNTED
	14	4-065-852-01	SPRING, EXTENSION
⚠	15	1-416-837-11	COIL, DEGAUSSING
	16	4-066-488-03	HOLDER (M), DGC
⚠	17	4-080-267-01	SPACER, CRT
⚠	18	4-080-811-01	SCREW, TAPPING (7) + CROWN WASHER

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

13-2. CHASSIS

● 7-685-663-79 SCREW +BVTP 4X16 TYPE2 TT(B)
■ 4-064-929-02 SCREW, TP+TWH 4X25



	REF.NO.	PART NO.	DESCRIPTION
	20	1-544-883-11	SPEAKER BOX (LEFT)
	21	1-544-883-21	SPEAKER BOX (RIGHT)
*	22	4-075-830-03	BRACKET, H
*	23	A-1372-978-A	HA BOARD, MOUNTED
*	24	4-081-596-01	BRACKET, MAIN
*	25	A-1348-066-A	D BOARD, COMPLETE
		The high voltage leads associated with the FBT on this board are not included and must be ordered separately (see 43-44).	
*	26	A-1372-979-A	HB BOARD, MOUNTED
*	27	A-1241-489-A	F BOARD, MOUNTED
*	28	A-1299-501-A	A BOARD, COMPLETE
*	29	A-1395-037-A	S BOARD, COMPLETE
*	30	SEE SUPPLEMENT-1	
*	31	SEE SUPPLEMENT-1	
	33	3-682-691-00	NUT, WASHER HEXAGON
	34	1-757-970-11	CORD WITH CONNECTOR (F-TYPE)
⚠	35	1-786-183-11	SWITCH, ANTENNA
	36	4-083-269-01	SHIELD, Q-B
⚠	37	1-790-316-21	CORD, AC POWER (WITH CONNECTOR)
	38	8-598-542-20	TUNER, FSS BTF-WA412
	39	8-598-542-20	TUNER, FSS BTF-WA412
*	40	1-555-400-00	CABLE, PIN

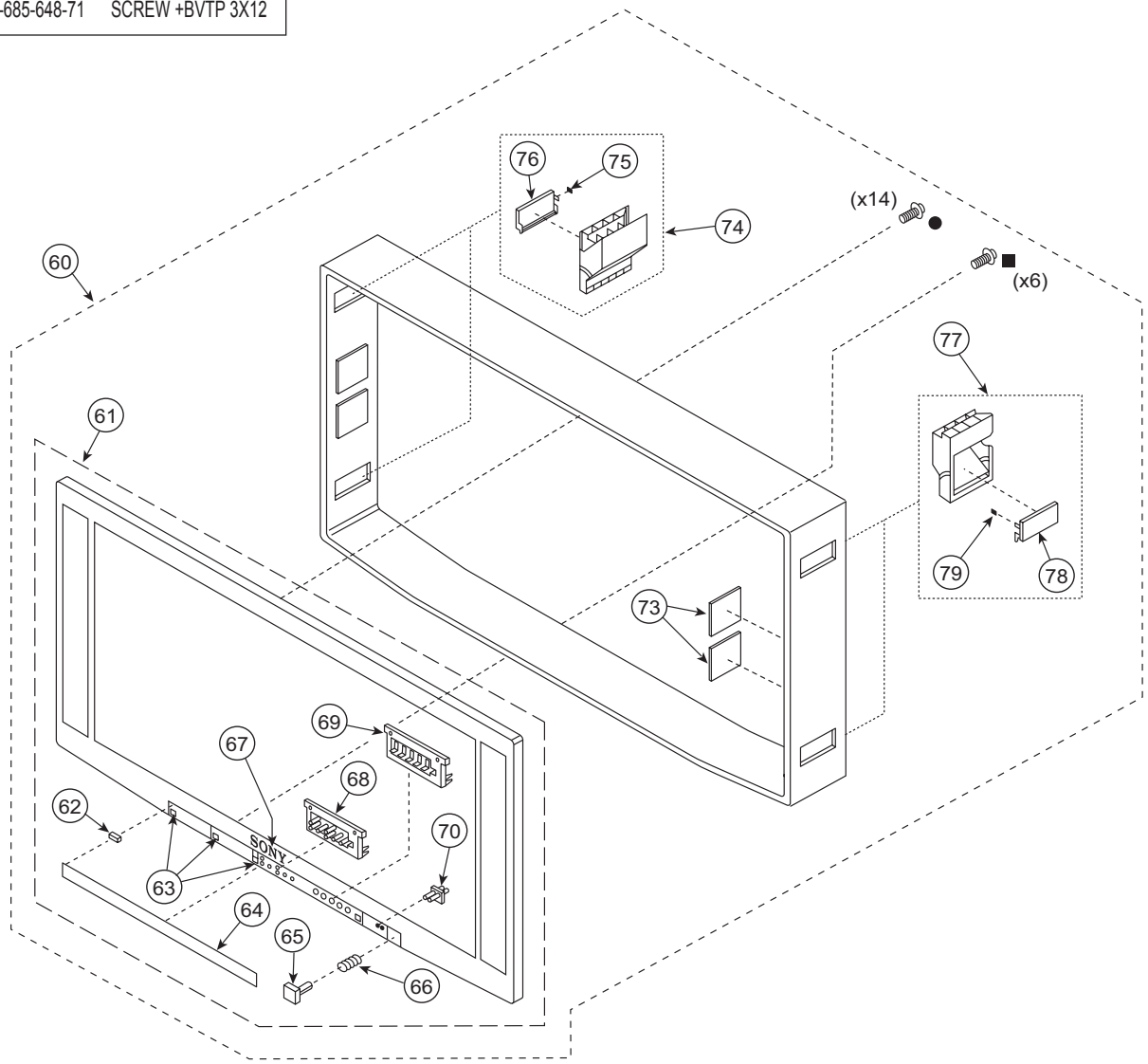
	REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]
*	41	1-557-056-31	CABLE, P-P	
⚠	42	1-453-346-11	FBT ASSY NX-6000//JIJ4	[43-44]
⚠	43	1-900-805-19	WIRE ASSY, FOCUS HV	
⚠	44	1-251-715-12	CAP ASSY, HIGH-VOLTAGE	
	45	3-704-372-31	HOLDER, HV CABLE	
*	46	A-1395-038-A	U BOARD, COMPLETE	
*⚠	47	4-081-597-02	BRACKET, U	
		The labels associated with the U Bracket are not included and must be ordered separately (see 48-49).		
	48	4-083-094-01	LABEL, TERMINAL (A)	
	49	4-083-095-01	LABEL, TERMINAL (B)	
	50	X-4039-221-1	COVER ASSY, REAR	[51]
		The label associated with the Rear Cover is not included and must be ordered separately (see 52).		
	51	4-079-345-02	CUSHION, REAR COVER (18 X 18)	
	52	4-083-096-01	LABEL, SERIAL NUMBER	
	53	1-500-386-11	FILTER, CLAMP	
	54	4-081-602-01	COVER, U BRACKET	
*	55	4-385-948-01	HOLDER, PWB	
	56	1-500-082-11	CLAMP, SLEEVE FERRITE	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

13-3. BEZNET

● 7-685-663-71 SCREW +BVTP 4X16
■ 7-685-648-71 SCREW +BVTP 3X12



REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]
60	X-4038-596-1	BEZNET ASSY	[61-79]
61	X-4038-597-1	BEZEL ASSY	[62-70]
62	4-076-673-03	DAMPER, DOOR	
63	4-072-630-01	CUSHION, DOOR	
64	4-080-379-31	DOOR	
65	4-080-364-11	BUTTON, POWER	
66	4-042-593-01	SPRING, COMPRESSION	
67	3-704-179-01	EMBLEM (NO.9), SONY	
68	4-080-363-11	BUTTON, MENU	
69	4-080-362-11	BUTTON, MULTI	
70	4-080-361-11	GUIDE, LED	
73	4-081-324-01	DAMPER (DT)	
74	X-4039-164-1	HANDLE ASSY, LEFT	[75-76]
75	4-081-009-01	TAPE (D)	
76	4-064-943-11	COVER, HANDLE	
77	X-4039-165-1	HANDLE ASSY, RIGHT	[78-79]
78	4-064-943-11	COVER, HANDLE	
79	4-081-009-01	TAPE (D)	

SECTION 14: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components in this manual identified by the following symbol: ⋈ indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.

Should replacement be required for one of these components, replace only with the value originally used.

*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

B

RESISTORS
- **All resistors are in ohms**
- **F : nonflammable**
- **All variable and adjustable resistors have characteristic curve B, unless otherwise noted.**

When ordering parts by reference number, please include the board name.

REF.NO.	PART NO.	DESCRIPTION	VALUES		
B					
*	SEE SUPPLEMENT-1	B BOARD, COMPLETE			
	CAPACITOR				
C001	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C002	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C003	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C004	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C005	1-115-156-11	CERAMIC CHIP	1µF		10V
C006	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C007	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C008	1-126-933-11	ELECT	100µF	20%	16V
C009	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C010	1-126-933-11	ELECT	100µF	20%	16V
C011	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C014	1-107-715-11	ELECT	22µF	20%	16V
C015	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C018	1-107-715-11	ELECT	22µF	20%	16V
C019	1-107-715-11	ELECT	22µF	20%	16V
C020	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C022	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C024	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C025	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C028	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C029	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C030	1-126-933-11	ELECT	100µF	20%	16V
C031	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C034	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C035	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C036	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C037	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C100	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C101	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C102	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C103	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C104	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C105	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C106	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C107	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C109	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C110	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C111	1-126-933-11	ELECT	100µF	20%	16V
C112	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C113	1-126-933-11	ELECT	100µF	20%	16V
C114	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C115	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C116	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C117	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C118	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C119	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C120	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C121	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C122	1-126-933-11	ELECT	100µF	20%	16V
C123	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C124	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C126	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C127	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C128	1-126-933-11	ELECT	100µF	20%	16V
C129	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C130	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C131	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C200	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C201	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C202	1-126-933-11	ELECT	100µF	20%	16V
C203	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C204	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C205	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C206	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C208	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C209	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C210	1-126-933-11	ELECT	100µF	20%	16V
C211	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C212	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C213	1-126-963-11	ELECT	4.7µF	20%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C214	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C215	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C216	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C217	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C218	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C219	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C220	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C221	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C222	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C223	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C224	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C225	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C226	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C227	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C228	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C229	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C230	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C231	1-126-933-11	ELECT	100µF	20%	16V
C232	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C234	1-126-933-11	ELECT	100µF	20%	16V
C235	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C236	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C237	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C238	1-126-933-11	ELECT	100µF	20%	16V
C239	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C240	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C241	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C242	1-126-933-11	ELECT	100µF	20%	16V
C243	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C244	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C245	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C246	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C247	1-126-933-11	ELECT	100µF	20%	16V
C248	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C249	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C250	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C251	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C252	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C253	1-126-933-11	ELECT	100µF	20%	16V
C254	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C255	1-126-933-11	ELECT	100µF	20%	16V
C256	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C258	1-126-933-11	ELECT	100µF	20%	16V
C259	1-126-963-11	ELECT	4.7µF	20%	50V
C260	1-126-933-11	ELECT	100µF	20%	16V
C261	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C262	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C263	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C264	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C265	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C266	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C267	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C268	1-126-933-11	ELECT	100µF	20%	16V
C271	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C272	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C274	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C275	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C276	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C277	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C278	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C280	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C281	1-126-933-11	ELECT	100µF	20%	16V
C282	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C284	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C285	1-126-933-11	ELECT	100µF	20%	16V
C286	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C287	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C288	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C290	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C291	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C292	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C293	1-126-933-11	ELECT	100µF	20%	16V
C294	1-126-933-11	ELECT	100µF	20%	16V
C295	1-126-933-11	ELECT	100µF	20%	16V
C296	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C297	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C298	1-126-933-11	ELECT	100µF	20%	16V
C299	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C300	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C301	1-126-964-11	ELECT	10µF	20%	50V
C302	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C303	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C304	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C305	1-126-933-11	ELECT	100µF	20%	16V
C306	1-126-933-11	ELECT	100µF	20%	16V
C307	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C309	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C310	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C311	1-126-963-11	ELECT	4.7µF	20%	50V
C312	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C313	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C314	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C315	1-126-933-11	ELECT	100µF	20%	16V
C317	1-126-933-11	ELECT	100µF	20%	16V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C319	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C320	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C321	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C322	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C323	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C324	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C326	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C327	1-126-933-11	ELECT	100µF	20%	16V
C329	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C330	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C331	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C333	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C334	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C336	1-126-963-11	ELECT	4.7µF	20%	50V
C337	1-126-933-11	ELECT	100µF	20%	16V
C338	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C339	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C340	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C341	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C342	1-126-933-11	ELECT	100µF	20%	16V
C346	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C347	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C348	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C349	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C350	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C351	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C352	1-126-933-11	ELECT	100µF	20%	16V
C353	1-126-933-11	ELECT	100µF	20%	16V
C354	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C355	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C400	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C401	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C402	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C403	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C404	1-126-933-11	ELECT	100µF	20%	16V
C405	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C406	1-126-933-11	ELECT	100µF	20%	16V
C407	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C408	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C409	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C410	1-126-933-11	ELECT	100µF	20%	16V
C411	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C412	1-126-933-11	ELECT	100µF	20%	16V
C413	1-126-964-11	ELECT	10µF	20%	50V
C414	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C415	1-126-935-11	ELECT	470µF	20%	16V
C416	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C417	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C418	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C419	1-126-964-11	ELECT	10µF	20%	50V
C420	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C421	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C422	1-126-964-11	ELECT	10µF	20%	50V
C423	1-126-964-11	ELECT	10µF	20%	50V
C500	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C501	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C502	1-126-933-11	ELECT	100µF	20%	16V
C503	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C505	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C506	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C507	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C508	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C509	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C510	1-126-933-11	ELECT	100µF	20%	16V
C511	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C512	1-115-156-11	CERAMIC CHIP	1µF	10V	
C513	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C514	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C515	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C517	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C518	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C519	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C520	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C521	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C522	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C523	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C524	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C525	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C526	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C527	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C528	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C529	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C530	1-126-933-11	ELECT	100µF	20%	16V
C531	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C532	1-126-965-91	ELECT	22µF	20%	50V
C533	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C534	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C535	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C536	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C537	1-126-933-11	ELECT	100µF	20%	16V
C538	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C539	1-162-913-11	CERAMIC CHIP	8pF	0.50pF	50V
C540	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C541	1-164-156-11	CERAMIC CHIP	0.1µF		25V

	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	C542	1-164-156-11	CERAMIC CHIP	0.1µF		25V
	C543	1-164-156-11	CERAMIC CHIP	0.1µF		25V
	C544	1-126-933-11	ELECT	100µF	20%	16V
	C546	1-164-156-11	CERAMIC CHIP	0.1µF		25V
	C547	1-126-933-11	ELECT	100µF	20%	16V
	C548	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
	C549	1-164-156-11	CERAMIC CHIP	0.1µF		25V
	C550	1-162-913-11	CERAMIC CHIP	8pF	0.50pF	50V
	C558	1-126-964-11	ELECT	10µF	20%	50V
	C559	1-136-177-00	FILM	1µF	5%	50V
	C560	1-136-177-00	FILM	1µF	5%	50V
	C561	1-126-964-11	ELECT	10µF	20%	50V
	C562	1-164-156-11	CERAMIC CHIP	0.1µF		25V
		CONNECTOR				
*	CN001	1-793-923-11	CONNECTOR, DIN (PLUG)	64P		
	CN002	1-793-173-11	PIN, PCCONNECTOR(PC BOARD)	50P		
*	CN003	1-793-922-11	CONNECTOR, DIN (RECEPTACLE)	64P		
*	CN006	1-564-507-11	PLUG,CONNECTOR	4P		
*	CN007	1-764-333-11	PLUG,CONNECTOR	10P		
	CN008	1-764-334-11	PLUG,CONNECTOR	11P		
*	CN009	1-564-508-11	PLUG,CONNECTOR	5P		
*	CN010	1-564-507-11	PLUG,CONNECTOR	4P		
		DIODE				
	D001	8-719-914-43	DIODE DAN202K-T-146			
	D100	8-719-914-43	DIODE DAN202K-T-146			
	D201	8-719-914-43	DIODE DAN202K-T-146			
	D202	8-719-914-44	DIODE DAP202K-T-146			
	D203	8-719-914-44	DIODE DAP202K-T-146			
	D204	8-719-914-43	DIODE DAN202K-T-146			
		FERRITE BEAD				
	FB001	1-469-981-21	FERRITE	0µH		
	FB200	1-414-229-11	FERRITE	0µH		
	FB201	1-414-229-11	FERRITE	0µH		
	FB500	1-469-179-21	FERRITE	0µH		
	FB501	1-469-179-21	FERRITE	0µH		
	FB502	1-414-229-11	FERRITE	0µH		
	FB503	1-414-229-11	FERRITE	0µH		
	FB504	1-469-835-21	FERRITE	0µH		
	FB505	1-469-179-21	FERRITE	0µH		
	FB506	1-469-179-21	FERRITE	0µH		
		FILTER				
	FL200	1-239-848-21	FILTER, LOW PASS			
	FL201	1-239-848-21	FILTER, LOW PASS			
	FL202	1-239-848-21	FILTER, LOW PASS			
	FL500	1-239-848-21	FILTER, LOW PASS			
	FL501	1-239-848-21	FILTER, LOW PASS			

REF.NO.	PART NO.	DESCRIPTION	VALUES
FL502	1-239-848-21	FILTER, LOW PASS	
FL503	1-239-848-21	FILTER, LOW PASS	
	IC		
IC001	**SEE SUPPLEMENT-1**		
IC002	8-759-548-56	IC M52055FP	
IC003	8-759-352-91	IC PST9143NL	
IC004	8-759-682-41	IC M24C32-WMN6T(A)	
IC006	8-759-240-87	IC TC74HCT157AF(EL)	
IC100	8-752-927-57	IC CXP961064-002Q	
IC101	8-752-927-57	IC CXP961064-002Q	
IC200	8-752-093-84	IC CXA2151Q	
IC201	8-759-548-56	IC M52055FP	
IC202	8-752-089-50	IC CXA2103Q	
IC203	6-700-205-01	IC TC74LVX157FT(EL)	
IC204	8-752-394-69	IC CXD2073Q-T4	
IC205	8-759-548-56	IC M52055FP	
IC206	6-700-205-01	IC TC74LVX157FT(EL)	
IC207	8-752-089-50	IC CXA2103Q	
IC400	8-759-100-96	IC NJM4558M-T2	
IC401	8-752-080-04	IC CXA2069Q	
IC402	8-759-526-64	IC NJM2521M(TE2)	
IC403	8-759-526-64	IC NJM2521M(TE2)	
IC500	8-759-568-27	IC UPD424210LE-60-E2	
IC501	8-759-594-44	IC UPD64082GF-3BA	
	COIL		
L001	1-469-555-21	INDUCTOR	10µH
L003	1-469-555-21	INDUCTOR	10µH
L005	1-469-555-21	INDUCTOR	10µH
L100	1-469-555-21	INDUCTOR	10µH
L101	1-469-555-21	INDUCTOR	10µH
L102	1-469-555-21	INDUCTOR	10µH
L103	1-469-555-21	INDUCTOR	10µH
L104	1-469-555-21	INDUCTOR	10µH
L200	1-469-555-21	INDUCTOR	10µH
L201	1-469-555-21	INDUCTOR	10µH
L202	1-469-555-21	INDUCTOR	10µH
L203	1-469-555-21	INDUCTOR	10µH
L204	1-469-555-21	INDUCTOR	10µH
L205	1-469-555-21	INDUCTOR	10µH
L206	1-469-555-21	INDUCTOR	10µH
L208	1-469-555-21	INDUCTOR	10µH
L209	1-469-555-21	INDUCTOR	10µH
L210	1-469-555-21	INDUCTOR	10µH
L211	1-469-555-21	INDUCTOR	10µH
L400	1-469-555-21	INDUCTOR	10µH

REF.NO.	PART NO.	DESCRIPTION	VALUES
L401	1-469-555-21	INDUCTOR	10µH
L402	1-469-555-21	INDUCTOR	10µH
L500	1-469-555-21	INDUCTOR	10µH
L501	1-469-555-21	INDUCTOR	10µH
L502	1-469-555-21	INDUCTOR	10µH
L503	1-469-555-21	INDUCTOR	10µH
L504	1-469-555-21	INDUCTOR	10µH
L505	1-469-555-21	INDUCTOR	10µH
	TRANSISTOR		
Q001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q009	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q011	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q013	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q100	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q101	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q102	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q103	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q104	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q105	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q106	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q107	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q108	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q200	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q201	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q202	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q203	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q204	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q205	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q208	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q216	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q217	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q218	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q219	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q220	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q221	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q222	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q224	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q227	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q228	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q229	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q230	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q231	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q232	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q235	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q240	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q243	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q248	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q250	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q400	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q401	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q403	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q404	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q405	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q406	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q407	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q409	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q410	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q411	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q412	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q413	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q414	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q415	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q500	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q501	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q502	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q503	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q504	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q505	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q506	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q507	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q508	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q509	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q510	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q511	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q512	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q513	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q514	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q515	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q516	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q517	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q518	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q519	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q520	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q521	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q522	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	RESISTOR		
R001	1-216-833-11	RES-CHIP	10K 5% 1/16W
R002	1-216-840-11	RES-CHIP	39K 5% 1/16W
R003	1-216-809-11	RES-CHIP	100 5% 1/16W
R004	1-216-817-11	RES-CHIP	470 5% 1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R005	1-216-821-11	RES-CHIP	1K	5%	1/16W
R006	1-216-821-11	RES-CHIP	1K	5%	1/16W
R007	1-216-821-11	RES-CHIP	1K	5%	1/16W
R008	1-216-821-11	RES-CHIP	1K	5%	1/16W
R009	1-216-809-11	RES-CHIP	100	5%	1/16W
R010	1-216-809-11	RES-CHIP	100	5%	1/16W
R011	1-216-809-11	RES-CHIP	100	5%	1/16W
R012	1-216-809-11	RES-CHIP	100	5%	1/16W
R013	1-216-809-11	RES-CHIP	100	5%	1/16W
R014	1-216-809-11	RES-CHIP	100	5%	1/16W
R015	1-216-809-11	RES-CHIP	100	5%	1/16W
R016	1-216-809-11	RES-CHIP	100	5%	1/16W
R017	1-216-809-11	RES-CHIP	100	5%	1/16W
R018	1-216-809-11	RES-CHIP	100	5%	1/16W
R019	1-216-809-11	RES-CHIP	100	5%	1/16W
R020	1-216-809-11	RES-CHIP	100	5%	1/16W
R021	1-216-809-11	RES-CHIP	100	5%	1/16W
R022	1-216-809-11	RES-CHIP	100	5%	1/16W
R023	1-216-809-11	RES-CHIP	100	5%	1/16W
R024	1-216-809-11	RES-CHIP	100	5%	1/16W
R025	1-216-809-11	RES-CHIP	100	5%	1/16W
R028	1-216-809-11	RES-CHIP	100	5%	1/16W
R029	1-216-809-11	RES-CHIP	100	5%	1/16W
R030	1-216-833-11	RES-CHIP	10K	5%	1/16W
R031	1-216-809-11	RES-CHIP	100	5%	1/16W
R032	1-216-833-11	RES-CHIP	10K	5%	1/16W
R033	1-216-809-11	RES-CHIP	100	5%	1/16W
R034	1-216-809-11	RES-CHIP	100	5%	1/16W
R035	1-216-809-11	RES-CHIP	100	5%	1/16W
R036	1-216-809-11	RES-CHIP	100	5%	1/16W
R037	1-216-809-11	RES-CHIP	100	5%	1/16W
R038	1-216-809-11	RES-CHIP	100	5%	1/16W
R039	1-216-809-11	RES-CHIP	100	5%	1/16W
R040	1-216-809-11	RES-CHIP	100	5%	1/16W
R041	1-216-833-11	RES-CHIP	10K	5%	1/16W
R042	1-216-809-11	RES-CHIP	100	5%	1/16W
R043	1-216-809-11	RES-CHIP	100	5%	1/16W
R044	1-216-849-11	RES-CHIP	220K	5%	1/16W
R045	1-216-809-11	RES-CHIP	100	5%	1/16W
R046	1-216-809-11	RES-CHIP	100	5%	1/16W
R047	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W
R048	1-216-809-11	RES-CHIP	100	5%	1/16W
R051	1-216-833-11	RES-CHIP	10K	5%	1/16W
R053	1-216-833-11	RES-CHIP	10K	5%	1/16W
R054	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R055	1-216-809-11	RES-CHIP	100	5%	1/16W
R059	1-216-809-11	RES-CHIP	100	5%	1/16W
R060	1-216-809-11	RES-CHIP	100	5%	1/16W
R062	1-216-864-11	SHORT			
R063	1-216-841-11	RES-CHIP	47K	5%	1/16W
R064	1-216-809-11	RES-CHIP	100	5%	1/16W
R065	1-216-809-11	RES-CHIP	100	5%	1/16W
R066	1-216-809-11	RES-CHIP	100	5%	1/16W
R068	1-216-864-11	SHORT			
R069	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R070	1-216-833-11	RES-CHIP	10K	5%	1/16W
R071	1-216-833-11	RES-CHIP	10K	5%	1/16W
R072	1-216-821-11	RES-CHIP	1K	5%	1/16W
R074	1-216-833-11	RES-CHIP	10K	5%	1/16W
R075	1-216-821-11	RES-CHIP	1K	5%	1/16W
R076	1-216-819-11	RES-CHIP	680	5%	1/16W
R077	1-216-821-11	RES-CHIP	1K	5%	1/16W
R078	1-216-821-11	RES-CHIP	1K	5%	1/16W
R079	1-216-809-11	RES-CHIP	100	5%	1/16W
R082	1-216-815-11	RES-CHIP	330	5%	1/16W
R083	1-216-809-11	RES-CHIP	100	5%	1/16W
R084	1-216-809-11	RES-CHIP	100	5%	1/16W
R085	1-216-841-11	RES-CHIP	47K	5%	1/16W
R086	1-216-828-11	RES-CHIP	3.9K	5%	1/16W
R087	1-216-805-11	RES-CHIP	47	5%	1/16W
R088	1-216-805-11	RES-CHIP	47	5%	1/16W
R089	1-216-805-11	RES-CHIP	47	5%	1/16W
R090	1-216-813-11	RES-CHIP	220	5%	1/16W
R091	1-216-813-11	RES-CHIP	220	5%	1/16W
R092	1-216-813-11	RES-CHIP	220	5%	1/16W
R098	1-216-841-11	RES-CHIP	47K	5%	1/16W
R102	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R103	1-216-833-11	RES-CHIP	10K	5%	1/16W
R104	1-216-841-11	RES-CHIP	47K	5%	1/16W
R105	1-216-841-11	RES-CHIP	47K	5%	1/16W
R106	1-216-809-11	RES-CHIP	100	5%	1/16W
R107	1-216-809-11	RES-CHIP	100	5%	1/16W
R108	1-216-833-11	RES-CHIP	10K	5%	1/16W
R109	1-216-813-11	RES-CHIP	220	5%	1/16W
R110	1-216-813-11	RES-CHIP	220	5%	1/16W
R111	1-216-813-11	RES-CHIP	220	5%	1/16W
R112	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R113	1-216-833-11	RES-CHIP	10K	5%	1/16W
R114	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R115	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R117	1-216-857-11	RES-CHIP	1M	5%	1/16W
R118	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R119	1-216-824-11	RES-CHIP	1.8K	5%	1/16W
R120	1-216-833-11	RES-CHIP	10K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R121	1-216-864-11	SHORT			
R122	1-216-849-11	RES-CHIP	220K	5%	1/16W
R123	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R124	1-216-849-11	RES-CHIP	220K	5%	1/16W
R125	1-216-841-11	RES-CHIP	47K	5%	1/16W
R126	1-216-845-11	RES-CHIP	100K	5%	1/16W
R130	1-216-833-11	RES-CHIP	10K	5%	1/16W
R131	1-216-864-11	SHORT			
R132	1-216-845-11	RES-CHIP	100K	5%	1/16W
R133	1-216-833-11	RES-CHIP	10K	5%	1/16W
R134	1-216-849-11	RES-CHIP	220K	5%	1/16W
R135	1-216-845-11	RES-CHIP	100K	5%	1/16W
R136	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R137	1-216-833-11	RES-CHIP	10K	5%	1/16W
R138	1-216-841-11	RES-CHIP	47K	5%	1/16W
R139	1-216-841-11	RES-CHIP	47K	5%	1/16W
R140	1-216-809-11	RES-CHIP	100	5%	1/16W
R141	1-216-809-11	RES-CHIP	100	5%	1/16W
R142	1-216-833-11	RES-CHIP	10K	5%	1/16W
R143	1-216-813-11	RES-CHIP	220	5%	1/16W
R144	1-216-813-11	RES-CHIP	220	5%	1/16W
R145	1-216-813-11	RES-CHIP	220	5%	1/16W
R146	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R147	1-216-833-11	RES-CHIP	10K	5%	1/16W
R148	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R149	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R151	1-216-857-11	RES-CHIP	1M	5%	1/16W
R152	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R153	1-216-824-11	RES-CHIP	1.8K	5%	1/16W
R154	1-216-864-11	SHORT			
R155	1-216-833-11	RES-CHIP	10K	5%	1/16W
R156	1-216-809-11	RES-CHIP	100	5%	1/16W
R157	1-216-809-11	RES-CHIP	100	5%	1/16W
R158	1-216-809-11	RES-CHIP	100	5%	1/16W
R200	1-216-837-11	RES-CHIP	22K	5%	1/16W
R201	1-216-809-11	RES-CHIP	100	5%	1/16W
R202	1-216-809-11	RES-CHIP	100	5%	1/16W
R203	1-216-837-11	RES-CHIP	22K	5%	1/16W
R204	1-216-819-11	RES-CHIP	680	5%	1/16W
R205	1-216-809-11	RES-CHIP	100	5%	1/16W
R206	1-216-809-11	RES-CHIP	100	5%	1/16W
R207	1-216-821-11	RES-CHIP	1K	5%	1/16W
R208	1-216-819-11	RES-CHIP	680	5%	1/16W
R210	1-216-837-11	RES-CHIP	22K	5%	1/16W
R211	1-216-809-11	RES-CHIP	100	5%	1/16W
R212	1-216-837-11	RES-CHIP	22K	5%	1/16W
R213	1-216-809-11	RES-CHIP	100	5%	1/16W
R214	1-216-809-11	RES-CHIP	100	5%	1/16W
R215	1-216-828-11	RES-CHIP	3.9K	5%	1/16W
R216	1-216-819-11	RES-CHIP	680	5%	1/16W
R219	1-216-809-11	RES-CHIP	100	5%	1/16W
R220	1-216-809-11	RES-CHIP	100	5%	1/16W
R221	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R222	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R223	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R224	1-216-809-11	RES-CHIP	100	5%	1/16W
R225	1-216-819-11	RES-CHIP	680	5%	1/16W
R226	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R227	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R228	1-216-837-11	RES-CHIP	22K	5%	1/16W
R231	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R232	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R233	1-216-809-11	RES-CHIP	100	5%	1/16W
R234	1-216-837-11	RES-CHIP	22K	5%	1/16W
R235	1-216-835-11	RES-CHIP	15K	5%	1/16W
R236	1-216-819-11	RES-CHIP	680	5%	1/16W
R239	1-216-804-11	RES-CHIP	39	5%	1/16W
R241	1-216-809-11	RES-CHIP	100	5%	1/16W
R242	1-216-809-11	RES-CHIP	100	5%	1/16W
R243	1-216-809-11	RES-CHIP	100	5%	1/16W
R244	1-216-819-11	RES-CHIP	680	5%	1/16W
R248	1-216-804-11	RES-CHIP	39	5%	1/16W
R253	1-216-804-11	RES-CHIP	39	5%	1/16W
R257	1-216-864-11	SHORT			
R258	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R259	1-218-734-11	METAL CHIP	56K	0.50%	1/16W
R260	1-216-797-11	RES-CHIP	10	5%	1/16W
R262	1-216-805-11	RES-CHIP	47	5%	1/16W
R263	1-216-809-11	RES-CHIP	100	5%	1/16W
R264	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R266	1-216-809-11	RES-CHIP	100	5%	1/16W
R268	1-216-809-11	RES-CHIP	100	5%	1/16W
R270	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R271	1-216-797-11	RES-CHIP	10	5%	1/16W
R273	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R275	1-216-817-11	RES-CHIP	470	5%	1/16W
R276	1-216-817-11	RES-CHIP	470	5%	1/16W
R277	1-216-817-11	RES-CHIP	470	5%	1/16W
R278	1-216-817-11	RES-CHIP	470	5%	1/16W
R279	1-216-817-11	RES-CHIP	470	5%	1/16W
R280	1-216-817-11	RES-CHIP	470	5%	1/16W
R281	1-216-797-11	RES-CHIP	10	5%	1/16W
R282	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R283	1-216-837-11	RES-CHIP	22K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R284	1-216-813-11	RES-CHIP	220	5%	1/16W
R285	1-216-837-11	RES-CHIP	22K	5%	1/16W
R287	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R288	1-216-817-11	RES-CHIP	470	5%	1/16W
R289	1-216-817-11	RES-CHIP	470	5%	1/16W
R290	1-216-813-11	RES-CHIP	220	5%	1/16W
R291	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R292	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R294	1-216-811-11	RES-CHIP	150	5%	1/16W
R295	1-216-839-11	RES-CHIP	33K	5%	1/16W
R296	1-216-839-11	RES-CHIP	33K	5%	1/16W
R297	1-216-817-11	RES-CHIP	470	5%	1/16W
R298	1-216-812-11	RES-CHIP	180	5%	1/16W
R299	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R300	1-216-811-11	RES-CHIP	150	5%	1/16W
R302	1-216-817-11	RES-CHIP	470	5%	1/16W
R303	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R304	1-216-821-11	RES-CHIP	1K	5%	1/16W
R305	1-216-812-11	RES-CHIP	180	5%	1/16W
R306	1-216-817-11	RES-CHIP	470	5%	1/16W
R307	1-216-817-11	RES-CHIP	470	5%	1/16W
R308	1-216-817-11	RES-CHIP	470	5%	1/16W
R309	1-216-817-11	RES-CHIP	470	5%	1/16W
R310	1-216-821-11	RES-CHIP	1K	5%	1/16W
R311	1-216-821-11	RES-CHIP	1K	5%	1/16W
R312	1-216-817-11	RES-CHIP	470	5%	1/16W
R313	1-216-833-11	RES-CHIP	10K	5%	1/16W
R314	1-216-809-11	RES-CHIP	100	5%	1/16W
R315	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R316	1-216-833-11	RES-CHIP	10K	5%	1/16W
R317	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R318	1-216-807-11	RES-CHIP	68	5%	1/16W
R319	1-216-821-11	RES-CHIP	1K	5%	1/16W
R320	1-216-837-11	RES-CHIP	22K	5%	1/16W
R321	1-216-841-11	RES-CHIP	47K	5%	1/16W
R322	1-216-821-11	RES-CHIP	1K	5%	1/16W
R323	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W
R324	1-216-809-11	RES-CHIP	100	5%	1/16W
R325	1-216-833-11	RES-CHIP	10K	5%	1/16W
R326	1-216-837-11	RES-CHIP	22K	5%	1/16W
R327	1-216-828-11	RES-CHIP	3.9K	5%	1/16W
R328	1-216-809-11	RES-CHIP	100	5%	1/16W
R329	1-216-837-11	RES-CHIP	22K	5%	1/16W
R330	1-216-805-11	RES-CHIP	47	5%	1/16W
R331	1-216-807-11	RES-CHIP	68	5%	1/16W
R332	1-216-819-11	RES-CHIP	680	5%	1/16W
R333	1-216-809-11	RES-CHIP	100	5%	1/16W
R334	1-216-809-11	RES-CHIP	100	5%	1/16W
R339	1-216-809-11	RES-CHIP	100	5%	1/16W
R340	1-216-819-11	RES-CHIP	680	5%	1/16W
R346	1-216-837-11	RES-CHIP	22K	5%	1/16W
R351	1-216-835-11	RES-CHIP	15K	5%	1/16W
R352	1-216-809-11	RES-CHIP	100	5%	1/16W
R353	1-216-837-11	RES-CHIP	22K	5%	1/16W
R355	1-216-819-11	RES-CHIP	680	5%	1/16W
R359	1-216-809-11	RES-CHIP	100	5%	1/16W
R360	1-216-819-11	RES-CHIP	680	5%	1/16W
R368	1-216-837-11	RES-CHIP	22K	5%	1/16W
R371	1-216-809-11	RES-CHIP	100	5%	1/16W
R372	1-216-837-11	RES-CHIP	22K	5%	1/16W
R373	1-216-819-11	RES-CHIP	680	5%	1/16W
R375	1-216-809-11	RES-CHIP	100	5%	1/16W
R376	1-216-819-11	RES-CHIP	680	5%	1/16W
R377	1-216-817-11	RES-CHIP	470	5%	1/16W
R378	1-216-817-11	RES-CHIP	470	5%	1/16W
R379	1-216-817-11	RES-CHIP	470	5%	1/16W
R400	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R401	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R402	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R403	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R404	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R405	1-216-809-11	RES-CHIP	100	5%	1/16W
R406	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R407	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R408	1-216-809-11	RES-CHIP	100	5%	1/16W
R409	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R410	1-216-809-11	RES-CHIP	100	5%	1/16W
R411	1-216-809-11	RES-CHIP	100	5%	1/16W
R412	1-216-809-11	RES-CHIP	100	5%	1/16W
R413	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R414	1-216-809-11	RES-CHIP	100	5%	1/16W
R415	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R416	1-216-809-11	RES-CHIP	100	5%	1/16W
R417	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R418	1-216-809-11	RES-CHIP	100	5%	1/16W
R419	1-216-809-11	RES-CHIP	100	5%	1/16W
R420	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R421	1-216-845-11	RES-CHIP	100K	5%	1/16W
R422	1-216-809-11	RES-CHIP	100	5%	1/16W
R423	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R424	1-216-809-11	RES-CHIP	100	5%	1/16W
R425	1-216-809-11	RES-CHIP	100	5%	1/16W
R427	1-216-845-11	RES-CHIP	100K	5%	1/16W
R428	1-216-848-11	RES-CHIP	180K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R429	1-216-821-11	RES-CHIP	1K	5%	1/16W
R430	1-216-809-11	RES-CHIP	100	5%	1/16W
R432	1-216-809-11	RES-CHIP	100	5%	1/16W
R433	1-216-833-11	RES-CHIP	10K	5%	1/16W
R434	1-216-805-11	RES-CHIP	47	5%	1/16W
R437	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R438	1-216-809-11	RES-CHIP	100	5%	1/16W
R439	1-216-821-11	RES-CHIP	1K	5%	1/16W
R440	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R441	1-216-813-11	RES-CHIP	220	5%	1/16W
R443	1-216-809-11	RES-CHIP	100	5%	1/16W
R444	1-216-813-11	RES-CHIP	220	5%	1/16W
R445	1-216-809-11	RES-CHIP	100	5%	1/16W
R446	1-216-853-11	RES-CHIP	470K	5%	1/16W
R447	1-216-817-11	RES-CHIP	470	5%	1/16W
R448	1-216-842-11	RES-CHIP	56K	5%	1/16W
R449	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R450	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R451	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R452	1-216-821-11	RES-CHIP	1K	5%	1/16W
R453	1-216-809-11	RES-CHIP	100	5%	1/16W
R454	1-216-809-11	RES-CHIP	100	5%	1/16W
R455	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R456	1-216-809-11	RES-CHIP	100	5%	1/16W
R457	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R458	1-216-809-11	RES-CHIP	100	5%	1/16W
R459	1-216-809-11	RES-CHIP	100	5%	1/16W
R460	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R461	1-216-857-11	RES-CHIP	1M	5%	1/16W
R463	1-216-806-11	RES-CHIP	56	5%	1/16W
R464	1-216-853-11	RES-CHIP	470K	5%	1/16W
R465	1-216-821-11	RES-CHIP	1K	5%	1/16W
R466	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R468	1-216-817-11	RES-CHIP	470	5%	1/16W
R469	1-216-853-11	RES-CHIP	470K	5%	1/16W
R470	1-216-821-11	RES-CHIP	1K	5%	1/16W
R471	1-216-841-11	RES-CHIP	47K	5%	1/16W
R473	1-216-821-11	RES-CHIP	1K	5%	1/16W
R474	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R475	1-216-817-11	RES-CHIP	470	5%	1/16W
R476	1-216-833-11	RES-CHIP	10K	5%	1/16W
R477	1-216-845-11	RES-CHIP	100K	5%	1/16W
R478	1-216-833-11	RES-CHIP	10K	5%	1/16W
R479	1-216-821-11	RES-CHIP	1K	5%	1/16W
R480	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R481	1-216-821-11	RES-CHIP	1K	5%	1/16W
R482	1-216-813-11	RES-CHIP	220	5%	1/16W
R483	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R484	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R485	1-216-831-11	RES-CHIP	6.8K	5%	1/16W
R486	1-216-831-11	RES-CHIP	6.8K	5%	1/16W
R504	1-216-821-11	RES-CHIP	1K	5%	1/16W
R505	1-216-809-11	RES-CHIP	100	5%	1/16W
R506	1-216-813-11	RES-CHIP	220	5%	1/16W
R507	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R508	1-216-821-11	RES-CHIP	1K	5%	1/16W
R509	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R510	1-216-813-11	RES-CHIP	220	5%	1/16W
R511	1-216-833-11	RES-CHIP	10K	5%	1/16W
R512	1-216-837-11	RES-CHIP	22K	5%	1/16W
R514	1-216-837-11	RES-CHIP	22K	5%	1/16W
R515	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R516	1-216-837-11	RES-CHIP	22K	5%	1/16W
R517	1-216-853-11	RES-CHIP	470K	5%	1/16W
R518	1-216-837-11	RES-CHIP	22K	5%	1/16W
R520	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R521	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R522	1-216-809-11	RES-CHIP	100	5%	1/16W
R523	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R524	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R525	1-216-821-11	RES-CHIP	1K	5%	1/16W
R526	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R527	1-216-821-11	RES-CHIP	1K	5%	1/16W
R528	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R529	1-216-821-11	RES-CHIP	1K	5%	1/16W
R530	1-216-839-11	RES-CHIP	33K	5%	1/16W
R531	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R532	1-216-817-11	RES-CHIP	470	5%	1/16W
R533	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R534	1-216-819-11	RES-CHIP	680	5%	1/16W
R535	1-218-690-11	METAL CHIP	820	0.50%	1/16W
R536	1-216-834-11	RES-CHIP	12K	5%	1/16W
R537	1-216-821-11	RES-CHIP	1K	5%	1/16W
R538	1-216-817-11	RES-CHIP	470	5%	1/16W
R542	1-216-821-11	RES-CHIP	1K	5%	1/16W
R543	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R544	1-216-821-11	RES-CHIP	1K	5%	1/16W
R545	1-216-839-11	RES-CHIP	33K	5%	1/16W
R546	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R547	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R548	1-216-819-11	RES-CHIP	680	5%	1/16W
R549	1-218-690-11	METAL CHIP	820	0.50%	1/16W
R550	1-216-834-11	RES-CHIP	12K	5%	1/16W
R551	1-216-821-11	RES-CHIP	1K	5%	1/16W

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B F

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R555	1-216-805-11	RES-CHIP	47	5%	1/16W
R556	1-216-805-11	RES-CHIP	47	5%	1/16W
R557	1-216-805-11	RES-CHIP	47	5%	1/16W
R558	1-216-833-11	RES-CHIP	10K	5%	1/16W
R559	1-216-833-11	RES-CHIP	10K	5%	1/16W
R560	1-216-833-11	RES-CHIP	10K	5%	1/16W
R561	1-216-833-11	RES-CHIP	10K	5%	1/16W
R562	1-216-841-11	RES-CHIP	47K	5%	1/16W
R563	1-216-841-11	RES-CHIP	47K	5%	1/16W
R564	1-216-841-11	RES-CHIP	47K	5%	1/16W
R565	1-216-841-11	RES-CHIP	47K	5%	1/16W
R566	1-216-841-11	RES-CHIP	47K	5%	1/16W
R567	1-216-841-11	RES-CHIP	47K	5%	1/16W
R568	1-216-833-11	RES-CHIP	10K	5%	1/16W
R569	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
R570	1-218-742-11	METAL CHIP	120K	0.50%	1/16W
R571	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
R572	1-218-742-11	METAL CHIP	120K	0.50%	1/16W
R574	1-216-809-11	RES-CHIP	100	5%	1/16W
R575	1-216-821-11	RES-CHIP	1K	5%	1/16W
R576	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R577	1-216-822-11	RES-CHIP	1.2K	5%	1/16W
R578	1-216-822-11	RES-CHIP	1.2K	5%	1/16W
R579	1-216-822-11	RES-CHIP	1.2K	5%	1/16W
R580	1-216-813-11	RES-CHIP	220	5%	1/16W
R581	1-216-809-11	RES-CHIP	100	5%	1/16W
R582	1-216-817-11	RES-CHIP	470	5%	1/16W
R583	1-216-833-11	RES-CHIP	10K	5%	1/16W
R584	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R585	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R586	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R587	1-216-864-11	SHORT			
R588	1-216-864-11	SHORT			
R589	1-216-809-11	RES-CHIP	100	5%	1/16W
R590	1-216-821-11	RES-CHIP	1K	5%	1/16W
R591	1-216-821-11	RES-CHIP	1K	5%	1/16W
R592	1-216-821-11	RES-CHIP	1K	5%	1/16W
R593	1-216-864-11	SHORT			
R594	1-216-817-11	RES-CHIP	470	5%	1/16W
R595	1-216-817-11	RES-CHIP	470	5%	1/16W
R596	1-216-821-11	RES-CHIP	1K	5%	1/16W

RESISTOR BRIDGE

RB500	1-233-411-21	RES, CHIP NETWORK	220	-3216
RB501	1-233-411-21	RES, CHIP NETWORK	220	-3216
RB502	1-233-411-21	RES, CHIP NETWORK	220	-3216
RB503	1-233-411-21	RES, CHIP NETWORK	220	-3216
RB504	1-233-411-21	RES, CHIP NETWORK	220	-3216
RB505	1-233-411-21	RES, CHIP NETWORK	220	-3216
RB506	1-233-411-21	RES, CHIP NETWORK	220	-3216

CRYSTAL

X001	1-781-931-21	VIBRATOR, CRYSTAL	
X003	1-795-371-21	VIBRATOR, CERAMIC	
X100	1-579-175-11	VIBRATOR, CERAMIC	
X101	1-579-175-11	VIBRATOR, CERAMIC	
X200	1-577-358-21	VIBRATOR, CERAMIC	
X201	1-567-505-11	OSCILLATOR, CRYSTAL	
X202	1-567-505-11	OSCILLATOR, CRYSTAL	

F

*	**A-1241-489-A**	**F BOARD, MOUNTED**	

CAPACITOR

⚠	C6701	1-136-311-11	MYLAR	0.47µF	20% 125V
⚠	C6702	1-113-910-11	CERAMIC	470pF	10% 250V
⚠	C6703	1-136-311-11	MYLAR	0.47µF	20% 125V
⚠	C6704	1-113-910-11	CERAMIC	470pF	10% 250V
⚠	C6705	1-113-910-11	CERAMIC	470pF	10% 250V
⚠	C6706	1-113-910-11	CERAMIC	470pF	10% 250V
⚠	C6709	1-136-346-21	MYLAR	0.22µF	20% 125V
	C6713	1-126-971-11	ELECT	470µF	20% 50V
	C6714	1-126-942-61	ELECT	1000µF	20% 25V
	C6715	1-130-495-00	MYLAR	0.1µF	5% 50V

CONNECTOR

	CN6701	1-695-915-11	TAB (CONTACT)	
	CN6702	1-695-915-11	TAB (CONTACT)	
⚠	CN6703	1-580-843-11	PIN,CONNECTOR	(POWER)
*	CN6706	1-766-241-11	PIN,CONNECTOR	(PC BOARD) 3P
*	CN6707	1-766-241-11	PIN,CONNECTOR	(PC BOARD) 3P
*	CN6708	1-508-786-00	PIN,CONNECTOR	(5MM PITCH) 2P
*	CN6709	1-766-240-11	PIN,CONNECTOR	(PC BOARD) 2P
*	CN6710	1-564-511-11	PLUG,CONNECTOR	8P

DIODE

D6701	8-719-991-33	DIODE 1SS133T-77
D6702	8-719-511-40	DIODE S1VB20
D6703	8-719-991-33	DIODE 1SS133T-77
D6704	8-719-991-33	DIODE 1SS133T-77

FUSE

⚠	F6701	1-532-506-51	FUSE	6.3A/250V

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F A

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	FUSE HOLDER				
FH6701	1-533-223-11	HOLDER, FUSE			
FH6702	1-533-223-11	HOLDER, FUSE			
	COIL				
⚠ L6701	1-423-835-11	TRANSFORMER, LINE FILTER (LFT)			
⚠ L6702	1-423-835-11	TRANSFORMER, LINE FILTER (LFT)			
	TRANSISTOR				
Q6701	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
	RESISTOR				
⚠ R6701	1-219-776-11	CARBON	2.2M	10%	1/2W
⚠ R6702	1-260-135-11	CARBON	1M	5%	1/2W
R6703	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R6704	1-244-155-11	CEMENTED	0.39	5%	20W
⚠ R6705	1-244-155-11	CEMENTED	0.39	5%	20W
R6707	1-249-425-11	CARBON	4.7K	5%	1/4W
R6708	1-249-417-11	CARBON	1K	5%	1/4W
R6709	1-249-433-11	CARBON	22K	5%	1/4W
	RELAY				
⚠ RY6701	1-755-178-11	RELAY, AC POWER			
	TRANSFORMER				
⚠ T6703	1-435-675-11	TRANSFORMER, STANDBY			
	THERMISTOR				
⚠ TH6701	1-803-629-11	THERMISTOR, POSITIVE			
	VARISTOR				
⚠ VD6701	1-801-074-41	VARISTOR	ERZV10D271		
⚠ VD6702	1-801-074-41	VARISTOR	ERZV10D271		

A

*	**A-1299-501-A**	**A BOARD, COMPLETE**	
	4-382-854-11	SCREW (M3X10), P, SW (+)	
	CAPACITOR		
C2001	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2002	1-104-665-11	ELECT	100µF 20% 10V
C2003	1-126-967-11	ELECT	47µF 20% 50V
C2004	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2005	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2006	1-126-933-11	ELECT	100µF 20% 16V
C2007	1-126-965-91	ELECT	22µF 20% 50V
C2008	1-126-933-11	ELECT	100µF 20% 16V
C2009	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V
C2010	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2012	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2014	1-126-964-11	ELECT	10µF 20% 50V
C2015	1-164-346-11	CERAMIC CHIP	1µF 16V
C2016	1-107-714-11	ELECT	10µF 20% 16V
C2017	1-107-714-11	ELECT	10µF 20% 16V
C2018	1-162-960-11	CERAMIC CHIP	220pF 10% 50V
C2019	1-165-176-11	CERAMIC CHIP	0.047µF 10% 16V
C2020	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2021	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2022	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2023	1-126-933-11	ELECT	100µF 20% 16V
C2024	1-104-665-11	ELECT	100µF 20% 10V
C2025	1-126-933-11	ELECT	100µF 20% 16V
C2026	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2028	1-126-935-11	ELECT	470µF 20% 16V
C2029	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V
C2030	1-126-965-91	ELECT	22µF 20% 50V
C2031	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C2032	1-164-346-11	CERAMIC CHIP	1µF 16V
C2034	1-162-960-11	CERAMIC CHIP	220pF 10% 50V
C2035	1-165-176-11	CERAMIC CHIP	0.047µF 10% 16V
C2036	1-126-964-11	ELECT	10µF 20% 50V
C2037	1-107-714-11	ELECT	10µF 20% 16V
C2038	1-107-714-11	ELECT	10µF 20% 16V
C2039	1-126-961-11	ELECT	2.2µF 20% 50V
C2050	1-126-935-11	ELECT	470µF 20% 16V
C2055	1-126-767-11	ELECT	1000µF 20% 16V
C2056	1-107-823-11	CERAMIC CHIP	0.47µF 10% 16V
C2057	1-107-823-11	CERAMIC CHIP	0.47µF 10% 16V
C3101	1-126-933-11	ELECT	100µF 20% 16V
C3105	1-127-715-91	CERAMIC CHIP	0.22µF 10% 16V
C3109	1-127-760-11	CERAMIC CHIP	4.7µF 10% 6.3V
C3111	1-127-760-11	CERAMIC CHIP	4.7µF 10% 6.3V
C3112	1-127-760-11	CERAMIC CHIP	4.7µF 10% 6.3V
C3113	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C3114	1-126-933-11	ELECT	100µF 20% 16V
C3115	1-162-966-11	CERAMIC CHIP	0.0022µF 10% 50V
C3116	1-126-967-11	ELECT	47µF 20% 50V
C3117	1-110-563-11	CERAMIC CHIP	0.068µF 10% 16V
C3118	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C3120	1-126-933-11	ELECT	100µF 20% 16V
C3122	1-107-823-11	CERAMIC CHIP	0.47µF 10% 16V

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A

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C3123	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3124	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3125	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3126	1-136-244-11	FILM	0.1µF	5%	50V
C3127	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3128	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3129	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3130	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3133	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3134	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3136	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3137	1-164-492-11	CERAMIC CHIP	0.15µF	10%	16V
C3138	1-164-346-11	CERAMIC CHIP	1µF		16V
C3139	1-125-838-11	CERAMIC CHIP	2.2µF	10%	6.3V
C3140	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3141	1-126-964-11	ELECT	10µF	20%	50V
C3142	1-126-964-11	ELECT	10µF	20%	50V
C3143	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3144	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C3145	1-126-933-11	ELECT	100µF	20%	16V
C3146	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3147	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3148	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3149	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3150	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C3151	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3152	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C3153	1-126-933-11	ELECT	100µF	20%	16V
C3154	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3155	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3156	1-126-933-11	ELECT	100µF	20%	16V
C3157	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3158	1-115-467-11	CERAMIC CHIP	0.22µF	10%	10V
C3159	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3160	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C3170	1-164-346-11	CERAMIC CHIP	1µF		16V
C3171	1-164-346-11	CERAMIC CHIP	1µF		16V
C3172	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C4426	1-126-961-11	ELECT	2.2µF	20%	50V
C4439	1-126-767-11	ELECT	1000µF	20%	16V
C4462	1-126-964-11	ELECT	10µF	20%	50V
C4477	1-126-964-11	ELECT	10µF	20%	50V
C4478	1-126-964-11	ELECT	10µF	20%	50V
C4479	1-126-960-11	ELECT	1µF	20%	50V
C4480	1-126-935-11	ELECT	470µF	20%	16V
C4481	1-126-960-11	ELECT	1µF	20%	50V
C4482	1-126-960-11	ELECT	1µF	20%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C4483	1-126-935-11	ELECT	470µF	20%	16V
C4484	1-126-960-11	ELECT	1µF	20%	50V
C4485	1-126-960-11	ELECT	1µF	20%	50V
C4486	1-126-935-11	ELECT	470µF	20%	16V
C4487	1-126-960-11	ELECT	1µF	20%	50V
C4488	1-126-934-11	ELECT	220µF	20%	16V
C4489	1-126-935-11	ELECT	470µF	20%	16V
C4490	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C4491	1-136-165-00	FILM	0.1µF	5%	50V
C4492	1-126-953-11	ELECT	2200µF	20%	35V
C4493	1-126-934-11	ELECT	220µF	20%	16V
C4494	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C4495	1-136-165-00	FILM	0.1µF	5%	50V
C4496	1-126-953-11	ELECT	2200µF	20%	35V
C4497	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C4498	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C4499	1-136-165-00	FILM	0.1µF	5%	50V
C4500	1-136-165-00	FILM	0.1µF	5%	50V
C4501	1-136-165-00	FILM	0.1µF	5%	50V
C4502	1-126-942-61	ELECT	1000µF	20%	25V
C4503	1-126-942-61	ELECT	1000µF	20%	25V
C4504	1-136-165-00	FILM	0.1µF	5%	50V
C4505	1-126-953-11	ELECT	2200µF	20%	35V
C4506	1-126-953-11	ELECT	2200µF	20%	35V
C6001	1-117-227-11	MYLAR	1µF	10%	450V
C6002	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C6003	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C6004	1-126-967-11	ELECT	47µF	20%	50V
C6005	1-126-961-11	ELECT	2.2µF	20%	50V
C6006	1-136-479-11	FILM	0.001µF	2%	50V
C6007	1-126-964-11	ELECT	10µF	20%	50V
C6008	1-130-777-00	MYLAR	0.1µF	5%	100V
C6009	1-126-947-11	ELECT	47µF	20%	25V
C6014	1-126-968-11	ELECT	100µF	20%	50V
C6016	1-125-969-91	CERAMIC	680pF	10%	1KV
C6017	1-126-960-11	ELECT	1µF	20%	50V
C6018	1-126-968-11	ELECT	100µF	20%	50V
C6019	1-135-945-21	FILM	10000pF	3%	800V
C6020	1-126-947-11	ELECT	47µF	20%	25V
⚠ C6021	1-119-887-51	CERAMIC	1000pF	20%	250V
C6022	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C6023	1-126-933-11	ELECT	100µF	20%	16V
C6024	1-115-746-11	ELECT	0.0056F	20%	10V
C6025	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C6026	1-128-546-11	ELECT	10000µF	20%	10V
C6027	1-126-960-11	ELECT	1µF	20%	50V
C6028	1-126-936-11	ELECT	3300µF	20%	16V

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	C6030	1-126-960-11	ELECT	1µF	20%	50V
	C6031	1-126-935-11	ELECT	470µF	20%	10V
	C6032	1-130-495-00	MYLAR	0.1µF	5%	50V
	C6034	1-104-665-11	ELECT	100µF	20%	25V
	C6035	1-126-935-11	ELECT	470µF	20%	16V
	C6036	1-130-495-00	MYLAR	0.1µF	5%	50V
	C6039	1-126-933-11	ELECT	100µF	20%	16V
	C6040	1-126-933-11	ELECT	100µF	20%	16V
	C6041	1-126-926-11	ELECT	1000µF	20%	10V
	C6042	1-126-941-11	ELECT	470µF	20%	25V
	C6046	1-126-767-11	ELECT	1000µF	20%	16V
	C6048	1-126-933-11	ELECT	100µF	20%	16V
	C6049	1-126-960-11	ELECT	1µF	20%	50V
	C6050	1-126-933-11	ELECT	100µF	20%	16V
	C6051	1-126-934-11	ELECT	220µF	20%	16V
	C6052	1-162-960-11	CERAMIC CHIP	220pF	10%	50V
		CONNECTOR				
*	CN2001	1-564-515-11	PLUG,CONNECTOR			12P
*	CN3020	1-793-922-11	CONNECTOR, DIN (RECEPTACLE)			64P
	CN3022	1-793-174-11	SOCKET,PCCONNECTOR (PC BOARD)			
*	CN3101	1-764-333-11	PLUG,CONNECTOR			10P
*	CN3102	1-564-506-11	PLUG,CONNECTOR			3P
*	CN3103	1-779-892-11	CONNECTOR, BOARD TO BOARD			10P
*	CN3170	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN3171	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN3173	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN3174	1-779-892-11	CONNECTOR, BOARD TO BOARD			10P
*	CN4402	1-691-616-21	CONNECTOR, BOARD TO BOARD			15P
*	CN4403	1-564-511-11	PLUG,CONNECTOR			8P
*	CN4404	1-564-511-61	PLUG,CONNECTOR			8P
*	CN6001	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN6002	1-564-511-11	PLUG,CONNECTOR			8P
*	CN6003	1-766-176-11	PIN,CONNECTOR (PC BOARD)			6P
*	CN6005	1-691-757-11	PIN,CONNECTOR (PC BOARD)			8P
	CN6009	1-695-915-11	TAB (CONTACT)			
	CN6010	1-695-915-11	TAB (CONTACT)			
	CN6012	1-695-915-11	TAB (CONTACT)			
		DIODE				
	D2007	8-719-404-50	DIODE MA111-TX			
	D2008	8-719-404-50	DIODE MA111-TX			
	D2050	8-719-914-43	DIODE DAN202K-T-146			
	D2051	8-719-914-43	DIODE DAN202K-T-146			
	D2052	8-719-914-43	DIODE DAN202K-T-146			
	D2053	8-719-991-33	DIODE 1SS133T-77			
	D2054	8-719-404-50	DIODE MA111-TX			
	D2055	8-719-404-50	DIODE MA111-TX			
	D2056	8-719-404-50	DIODE MA111-TX			

REF.NO.	PART NO.	DESCRIPTION	VALUES
D2057	8-719-404-50	DIODE MA111-TX	
D2058	8-719-404-50	DIODE MA111-TX	
D2059	8-719-404-50	DIODE MA111-TX	
D3103	8-719-404-50	DIODE MA111-TX	
D3105	8-719-025-31	DIODE 02CZ5.6-TE85L	
D3106	8-719-404-50	DIODE MA111-TX	
D3109	8-719-991-33	DIODE 1SS133T-77	
D3111	1-216-864-11	SHORT	
D3112	8-719-991-33	DIODE 1SS133T-77	
D3113	8-719-109-97	DIODE MTZJ-T-77-6.8B	
D3114	8-719-109-97	DIODE MTZJ-T-77-6.8B	
D4403	8-719-041-97	DIODE MA113-(TX)	
D4404	8-719-991-33	DIODE 1SS133T-77	
D4406	8-719-404-50	DIODE MA111-TX	
D4409	8-719-041-97	DIODE MA113-(TX)	
D4410	8-719-404-50	DIODE MA111-TX	
D4411	8-719-041-97	DIODE MA113-(TX)	
D4412	8-719-404-50	DIODE MA111-TX	
D4413	8-719-404-50	DIODE MA111-TX	
D4414	8-719-404-50	DIODE MA111-TX	
D4415	8-719-924-13	DIODE MTZJ-T-77-22B	
D4416	8-719-924-13	DIODE MTZJ-T-77-22B	
D6002	8-719-404-50	DIODE MA111-TX	
D6004	8-719-979-64	DIODE µF4005PKG23	
D6011	8-719-063-73	DIODE D1NL20U-TR	
D6012	8-719-063-73	DIODE D1NL20U-TR	
D6013	8-719-404-50	DIODE MA111-TX	
D6014	8-719-031-79	DIODE D5SC4M	
D6015	8-719-921-63	DIODE MTZJ-T-77-7.5B	
D6016	8-719-510-12	DIODE D10SC4M	
D6017	8-719-109-97	DIODE MTZJ-T-77-6.8B	
D6018	8-719-031-79	DIODE D5SC4M	
D6019	8-719-404-50	DIODE MA111-TX	
D6020	8-719-921-40	DIODE MTZJ-T-77-4.7B	
D6021	8-719-991-33	DIODE 1SS133T-77	
D6022	8-719-404-50	DIODE MA111-TX	
D6023	8-719-404-50	DIODE MA111-TX	
D6024	8-719-991-33	DIODE 1SS133T-77	
D6025	8-719-991-33	DIODE 1SS133T-77	
D6026	8-719-991-33	DIODE 1SS133T-77	
D6027	8-719-404-50	DIODE MA111-TX	
D6030	8-719-991-33	DIODE 1SS133T-77	
D6031	8-719-991-33	DIODE 1SS133T-77	
D6032	8-719-991-33	DIODE 1SS133T-77	
D6034	8-719-923-78	DIODE MTZJ-T-77-12	
D6035	8-719-924-13	DIODE MTZJ-T-77-22B	
D6036	8-719-991-33	DIODE 1SS133T-77	
D6037	8-719-991-33	DIODE 1SS133T-77	

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REF.NO.	PART NO.	DESCRIPTION	VALUES
	FERRITE BEAD		
FB6001	1-412-911-11	FERRITE	0µH
FB6002	1-412-911-11	FERRITE	0µH
FB6004	1-412-911-11	FERRITE	0µH
FB6005	1-412-911-11	FERRITE	0µH
FB6006	1-412-911-11	FERRITE	0µH
FB6007	1-412-911-11	FERRITE	0µH
FB6008	1-412-911-11	FERRITE	0µH
FB6009	1-412-911-11	FERRITE	0µH
	IC		
IC3101	8-752-100-25	IC CXA2150AQ	
IC4405	8-759-246-70	IC TA8216H	
IC4406	8-759-246-70	IC TA8216H	
IC6001	8-759-670-30	IC MCZ3001D	
IC6002	8-759-450-47	IC BA05T	
IC6003	8-759-140-85	IC UPC1093J-T	
IC6004	8-759-284-06	IC PQ30RV31	
IC6005	8-759-648-72	IC PQ3RD083	
IC6006	8-759-513-71	IC PQ05RF21	
IC6007	8-759-198-03	IC PQ09RF21	
IC6008	8-759-198-03	IC PQ09RF21	
	COIL		
L2001	1-469-320-21	INDUCTOR	100µH
L2002	1-469-320-21	INDUCTOR	100µH
L2003	1-469-317-21	INDUCTOR	10µH
L2005	1-469-320-21	INDUCTOR	100µH
L2006	1-469-320-21	INDUCTOR	100µH
L2007	1-469-317-21	INDUCTOR	10µH
L3101	1-469-317-21	INDUCTOR	10µH
L3102	1-469-317-21	INDUCTOR	10µH
L3103	1-469-317-21	INDUCTOR	10µH
L4401	1-414-185-41	INDUCTOR	22µH
L6001	1-469-317-21	INDUCTOR	10µH
L6002	1-406-665-11	INDUCTOR	100µH
L6003	1-406-659-11	INDUCTOR	10µH
L6004	1-406-661-11	INDUCTOR	22µH
L6005	1-412-525-31	INDUCTOR	10µH
	PHOTO COUPLER		
PH6001	8-749-924-35	PHOTO COUPLER	ON3171-R
	TRANSISTOR		
Q2001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q2002	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q2003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q2004	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q2005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q2006	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q2050	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q2053	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3101	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
Q3102	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
Q3103	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3105	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3106	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3107	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
Q3108	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
Q3110	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3111	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q3112	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3170	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3171	8-729-901-47	TRANSISTOR DTA143EKA-T146	
Q3172	8-729-901-47	TRANSISTOR DTA143EKA-T146	
Q3173	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3180	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3181	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q4401	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q4402	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q4403	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q4404	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4405	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4406	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4407	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4408	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4409	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4410	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q4411	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q6001	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
Q6002	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
Q6003	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6004	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6005	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6006	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6007	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6009	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6010	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q6011	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q6012	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6013	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	RESISTOR		
R2001	1-216-864-11	SHORT	
R2002	1-216-805-11	RES-CHIP	47 5% 1/16W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R2003	1-216-805-11	RES-CHIP	47	5%	1/16W
R2004	1-216-837-11	RES-CHIP	22K	5%	1/16W
R2005	1-216-839-11	RES-CHIP	33K	5%	1/16W
R2006	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R2007	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R2008	1-216-809-11	RES-CHIP	100	5%	1/16W
R2009	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R2010	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2011	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2012	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2013	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2014	1-216-857-11	RES-CHIP	1M	5%	1/16W
R2015	1-216-845-11	RES-CHIP	100K	5%	1/16W
R2016	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R2017	1-216-864-11	SHORT			
R2018	1-216-809-11	RES-CHIP	100	5%	1/16W
R2019	1-216-809-11	RES-CHIP	100	5%	1/16W
R2020	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2021	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R2022	1-216-864-11	SHORT			
R2023	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2024	1-216-839-11	RES-CHIP	33K	5%	1/16W
R2025	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2026	1-216-837-11	RES-CHIP	22K	5%	1/16W
R2027	1-216-857-11	RES-CHIP	1M	5%	1/16W
R2028	1-216-845-11	RES-CHIP	100K	5%	1/16W
R2029	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R2030	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R2031	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R2032	1-216-809-11	RES-CHIP	100	5%	1/16W
R2033	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2034	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2036	1-216-857-11	RES-CHIP	1M	5%	1/16W
R2037	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R2038	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2051	1-216-864-11	SHORT			
R2053	1-216-864-11	SHORT			
R2054	1-216-833-11	RES-CHIP	10K	5%	1/16W
R2055	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R2058	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R2059	1-216-821-11	RES-CHIP	1K	5%	1/16W
R2062	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3101	1-216-815-11	RES-CHIP	330	5%	1/16W
R3104	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3106	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3107	1-216-809-11	RES-CHIP	100	5%	1/16W
R3108	1-249-412-11	CARBON	390	5%	1/4W
R3109	1-216-864-11	SHORT			
R3110	1-216-809-11	RES-CHIP	100	5%	1/16W
R3111	1-216-864-11	SHORT			
R3112	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3113	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3114	1-249-412-11	CARBON	390	5%	1/4W
R3115	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3116	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3117	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3118	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3120	1-216-809-11	RES-CHIP	100	5%	1/16W
R3121	1-249-412-11	CARBON	390	5%	1/4W
R3122	1-216-809-11	RES-CHIP	100	5%	1/16W
R3125	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3131	1-216-809-11	RES-CHIP	100	5%	1/16W
R3135	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3137	1-216-863-11	RES-CHIP	3.3M	5%	1/16W
R3139	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3140	1-216-826-11	RES-CHIP	2.7K	5%	1/16W
R3141	1-216-809-11	RES-CHIP	100	5%	1/16W
R3143	1-216-834-11	RES-CHIP	12K	5%	1/16W
R3144	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3145	1-216-809-11	RES-CHIP	100	5%	1/16W
R3146	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3150	1-216-809-11	RES-CHIP	100	5%	1/16W
R3151	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3152	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W
R3153	1-216-809-11	RES-CHIP	100	5%	1/16W
R3154	1-216-818-11	RES-CHIP	560	5%	1/16W
R3155	1-216-817-11	RES-CHIP	470	5%	1/16W
R3157	1-216-805-11	RES-CHIP	47	5%	1/16W
R3158	1-216-828-11	RES-CHIP	3.9K	5%	1/16W
R3159	1-216-805-11	RES-CHIP	47	5%	1/16W
R3160	1-216-805-11	RES-CHIP	47	5%	1/16W
R3161	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R3162	1-216-809-11	RES-CHIP	100	5%	1/16W
R3164	1-216-832-11	RES-CHIP	8.2K	5%	1/16W
R3165	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3167	1-218-662-11	METAL CHIP	56	0.50%	1/16W
R3168	1-218-662-11	METAL CHIP	56	0.50%	1/16W
R3169	1-218-662-11	METAL CHIP	56	0.50%	1/16W
R3170	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3171	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3172	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3173	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3174	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3175	1-216-833-11	RES-CHIP	10K	5%	1/16W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3176	1-216-813-11	RES-CHIP	220	5%	1/16W
R3177	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3178	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3180	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3181	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3182	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3183	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3184	1-216-809-11	RES-CHIP	100	5%	1/16W
R4422	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4423	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4424	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4425	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4427	1-216-837-11	RES-CHIP	22K	5%	1/16W
R4428	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4429	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4431	1-216-845-11	RES-CHIP	100K	5%	1/16W
R4433	1-216-864-11	SHORT			
R4436	1-216-833-11	RES-CHIP	10K	5%	1/16W
R4446	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4447	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4454	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4455	1-216-837-11	RES-CHIP	22K	5%	1/16W
R4456	1-216-833-11	RES-CHIP	10K	5%	1/16W
R4457	1-216-833-11	RES-CHIP	10K	5%	1/16W
R4470	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4471	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4472	1-216-833-11	RES-CHIP	10K	5%	1/16W
R4473	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4475	1-216-864-11	SHORT			
R4476	1-216-833-11	RES-CHIP	10K	5%	1/16W
R4477	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R4478	1-216-864-11	SHORT			
R4479	1-216-864-11	SHORT			
R4480	1-216-835-11	RES-CHIP	15K	5%	1/16W
R4481	1-216-864-11	SHORT			
R4482	1-216-835-11	RES-CHIP	15K	5%	1/16W
R4483	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4484	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4485	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4486	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4487	1-249-385-11	CARBON	2.2	5%	1/4W
R4488	1-249-385-11	CARBON	2.2	5%	1/4W
R4489	1-249-385-11	CARBON	2.2	5%	1/4W
R4490	1-249-385-11	CARBON	2.2	5%	1/4W
R4491	1-249-429-11	CARBON	10K	5%	1/4W
R4492	1-249-429-11	CARBON	10K	5%	1/4W
R4493	1-249-429-11	CARBON	10K	5%	1/4W
R4494	1-249-429-11	CARBON	10K	5%	1/4W
R6001	1-215-481-00	METAL	330K	1%	1/4W
R6002	1-220-926-11	FUSIBLE	0.47	10%	1/2W
R6003	1-215-481-00	METAL	330K	1%	1/4W
R6004	1-215-481-00	METAL	330K	1%	1/4W
R6005	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R6006	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R6008	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R6009	1-216-615-91	METAL CHIP	33	0.50%	1/10W
R6010	1-249-417-11	CARBON	1K	5%	1/4W
R6011	1-249-393-11	CARBON	10	5%	1/4W
R6012	1-249-393-11	CARBON	10	5%	1/4W
R6014	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6015	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6017	1-215-907-11	METAL OXIDE	22	5%	3W
R6018	1-216-363-00	METAL OXIDE	0.33	5%	2W
R6019	1-216-363-00	METAL OXIDE	0.33	5%	2W
R6020	1-249-393-11	CARBON	10	5%	1/4W
R6021	1-216-295-91	SHORT			
R6022	1-216-041-00	RES-CHIP	470	5%	1/10W
R6023	1-249-393-11	CARBON	10	5%	1/4W
R6024	1-216-833-11	RES-CHIP	10K	5%	1/16W
R6025	1-216-851-11	RES-CHIP	330K	5%	1/16W
R6026	1-216-851-11	RES-CHIP	330K	5%	1/16W
R6027	1-216-033-00	RES-CHIP	220	5%	1/10W
R6028	1-216-821-11	RES-CHIP	1K	5%	1/16W
R6029	1-249-381-11	CARBON	1	5%	1/4W
R6030	1-216-821-11	RES-CHIP	1K	5%	1/16W
R6031	1-216-833-11	RES-CHIP	10K	5%	1/16W
R6032	1-216-833-11	RES-CHIP	10K	5%	1/16W
R6033	1-216-821-11	RES-CHIP	1K	5%	1/16W
R6034	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R6035	1-216-833-11	RES-CHIP	10K	5%	1/16W
R6036	1-216-833-11	RES-CHIP	10K	5%	1/16W
R6037	1-216-809-11	RES-CHIP	100	5%	1/16W
R6038	1-216-049-11	RES-CHIP	1K	5%	1/10W
⚠ R6039	1-219-718-11	CEMENTED	0.1	10%	5W
R6040	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W
R6041	1-218-713-11	METAL CHIP	7.5K	0.50%	1/16W
R6042	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
⚠ R6043	1-219-718-11	CEMENTED	0.1	10%	5W
R6045	1-216-849-11	RES-CHIP	220K	5%	1/16W
R6046	1-216-821-11	RES-CHIP	1K	5%	1/16W
R6048	1-249-417-11	CARBON	1K	5%	1/4W
R6049	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R6050	1-218-696-11	METAL CHIP	1.5K	0.50%	1/16W
R6052	1-216-833-11	RES-CHIP	10K	5%	1/16W

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	R6053	1-216-821-11	RES-CHIP	1K	5%	1/16W
⚠	R6054	1-216-341-11	METAL OXIDE	0.22	5%	1W
	R6055	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
	R6056	1-216-821-11	RES-CHIP	1K	5%	1/16W
	R6057	1-216-821-11	RES-CHIP	1K	5%	1/16W
	R6058	1-216-833-11	RES-CHIP	10K	5%	1/16W
	R6059	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
	R6060	1-216-821-11	RES-CHIP	1K	5%	1/16W
	R6061	1-216-821-11	RES-CHIP	1K	5%	1/16W
	R6062	1-216-809-11	RES-CHIP	100	5%	1/16W
	R6063	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
	R6064	1-216-833-11	RES-CHIP	10K	5%	1/16W
	R6065	1-216-821-11	RES-CHIP	1K	5%	1/16W
	R6066	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
⚠	R6067	1-216-363-00	METAL OXIDE	0.33	5%	2W
	R6068	1-216-821-11	RES-CHIP	1K	5%	1/16W
	R6069	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
	R6070	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
	R6071	1-216-833-11	RES-CHIP	10K	5%	1/16W
	R6072	1-216-809-11	RES-CHIP	100	5%	1/16W
	R6073	1-249-421-11	CARBON	2.2K	5%	1/4W
	R6074	1-249-437-11	CARBON	47K	5%	1/4W

TRANSFORMER

	T6002	1-435-577-11	TRANSFORMER, CONVERTER (PIT)

TUNER

	TU2001	8-598-542-20	TUNER, FSS BTF-WA412
	TU2002	8-598-542-20	TUNER, FSS BTF-WA412

CRYSTAL

	X3101	1-760-895-21	VIBRATOR, CERAMIC

C

*	**A-1332-184-A**	**C BOARD, MOUNTED**	
	4-382-854-11	SCREW (M3X10), P, SW (+)	

CAPACITOR

	C9001	1-126-940-11	ELECT	330µF	20%	25V
	C9004	1-162-114-00	CERAMIC	.0047µF		2KV
	C9009	1-163-104-00	CERAMIC CHIP	30pF	5%	50V
	C9010	1-163-104-00	CERAMIC CHIP	30pF	5%	50V
	C9011	1-161-830-00	CERAMIC	.0047µF		500V
	C9012	1-161-830-00	CERAMIC	.0047µF		500V
	C9013	1-163-035-00	CERAMIC CHIP	0.047µF		50V
	C9014	1-161-830-00	CERAMIC	.0047µF		500V
	C9015	1-163-104-00	CERAMIC CHIP	30pF	5%	50V
	C9018	1-107-961-91	ELECT	10µF	20%	250V
	C9019	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C9020	1-107-961-91	ELECT	10µF	20%	250V
	C9021	1-107-961-91	ELECT	10µF	20%	250V
	C9022	1-101-004-00	CERAMIC	0.01µF		50V
	C9023	1-101-004-00	CERAMIC	0.01µF		50V
	C9024	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C9025	1-104-653-11	ELECT	220µF	20%	16V
	C9026	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C9027	1-101-004-00	CERAMIC	0.01µF		50V
	C9031	1-162-116-00	CERAMIC	680pF	10%	2KV
	C9032	1-162-116-00	CERAMIC	680pF	10%	2KV
	C9033	1-107-662-11	ELECT	22µF	20%	250V
	C9035	1-126-933-11	ELECT	100µF	20%	16V
	C9036	1-126-964-11	ELECT	10µF	20%	50V
	C9037	1-126-961-11	ELECT	2.2µF	20%	50V
	C9038	1-126-963-11	ELECT	4.7µF	20%	50V
	C9042	1-126-940-11	ELECT	330µF	20%	25V
	C9044	1-126-934-11	ELECT	220µF	20%	16V
	C9045	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C9046	1-126-933-11	ELECT	100µF	20%	16V
	C9047	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
	C9048	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C9049	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C9050	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V

CONNECTOR

*	CN9001	1-764-333-11	PLUG,CONNECTOR	10P
*	CN9002	1-766-242-11	PIN,CONNECTOR (PC BOARD)	4P
	CN9003	1-695-915-11	TAB (CONTACT)	
	CN9004	1-695-915-11	TAB (CONTACT)	

DIODE

	D9001	8-719-911-19	DIODE 1SS119-25TD
	D9003	8-719-911-19	DIODE 1SS119-25TD
	D9005	8-719-404-50	DIODE MA111-TX
	D9006	8-719-051-85	DIODE HSS83TD
	D9007	8-719-051-85	DIODE HSS83TD
	D9008	8-719-051-85	DIODE HSS83TD
	D9009	8-719-908-03	DIODE GP08DPKG23
	D9010	8-719-110-17	DIODE MTZJ-T-77-10
	D9013	8-719-911-19	DIODE 1SS119-25TD
	D9014	8-719-911-19	DIODE 1SS119-25TD
	D9015	8-719-911-19	DIODE 1SS119-25TD
	D9016	8-719-911-19	DIODE 1SS119-25TD
	D9017	8-719-911-19	DIODE 1SS119-25TD

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C

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	IC				
IC9001	8-759-680-01	IC TDA6120Q/N2/S1			
IC9002	8-759-680-01	IC TDA6120Q/N2/S1			
IC9003	8-759-680-01	IC TDA6120Q/N2/S1			
	JACK				
⚠ J9001	1-451-470-21	SOCKET, CRT			
	COIL				
L9002	1-408-399-00	INDUCTOR	1.5µH		
L9003	1-408-592-11	INDUCTOR	1.2µH		
L9004	1-408-592-11	INDUCTOR	1.2µH		
L9005	1-406-666-21	INDUCTOR	150µH		
L9006	1-412-526-11	INDUCTOR	12µH		
	NEON LAMP				
NL9003	1-519-421-11	GAP, DISCHARGE			
	TRANSISTOR				
Q9001	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9002	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q9003	8-729-422-33	TRANSISTOR 2PD601AR-115			
Q9004	8-729-422-33	TRANSISTOR 2PD601AR-115			
Q9005	8-729-422-33	TRANSISTOR 2PD601AR-115			
Q9007	8-729-141-73	TRANSISTOR 2SC3624A-T1L15L16			
Q9008	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q9009	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9010	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9011	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9012	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q9013	8-729-141-73	TRANSISTOR 2SC3624A-T1L15L16			
Q9014	8-729-823-81	TRANSISTOR 2SC4632LS-CB7			
Q9015	8-729-141-73	TRANSISTOR 2SC3624A-T1L15L16			
	RESISTOR				
R9001	1-216-633-11	METAL CHIP	180	0.50%	1/10W
R9004	1-249-428-11	CARBON	8.2K	5%	1/4W
R9005	1-249-421-11	CARBON	2.2K	5%	1/4W
R9006	1-249-429-11	CARBON	10K	5%	1/4W
R9007	1-216-652-11	METAL CHIP	1.1K	0.50%	1/10W
R9009	1-249-429-11	CARBON	10K	5%	1/4W
R9010	1-249-429-11	CARBON	10K	5%	1/4W
R9013	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9014	1-249-409-11	CARBON	220	5%	1/4W
R9015	1-249-409-11	CARBON	220	5%	1/4W
R9016	1-249-409-11	CARBON	220	5%	1/4W
R9018	1-216-633-11	METAL CHIP	180	0.50%	1/10W
R9019	1-216-633-11	METAL CHIP	180	0.50%	1/10W
R9020	1-216-025-11	RES-CHIP	100	5%	1/10W
R9021	1-216-103-00	RES-CHIP	180K	5%	1/10W
R9022	1-216-073-91	RES-CHIP	10K	5%	1/10W
R9023	1-216-103-00	RES-CHIP	180K	5%	1/10W
R9025	1-216-025-11	RES-CHIP	100	5%	1/10W
R9026	1-216-652-11	METAL CHIP	1.1K	0.50%	1/10W
R9027	1-216-103-00	RES-CHIP	180K	5%	1/10W
R9028	1-216-103-00	RES-CHIP	180K	5%	1/10W
R9029	1-216-073-91	RES-CHIP	10K	5%	1/10W
R9030	1-216-073-91	RES-CHIP	10K	5%	1/10W
R9031	1-216-652-11	METAL CHIP	1.1K	0.50%	1/10W
R9032	1-216-103-00	RES-CHIP	180K	5%	1/10W
R9033	1-215-435-00	METAL	3.9K	1%	1/4W
R9034	1-215-428-00	METAL	2K	1%	1/4W
R9035	1-216-103-00	RES-CHIP	180K	5%	1/10W
R9036	1-216-083-00	RES-CHIP	27K	5%	1/10W
R9037	1-215-926-00	METAL OXIDE	33K	5%	3W
R9039	1-216-025-11	RES-CHIP	100	5%	1/10W
R9041	1-216-083-00	RES-CHIP	27K	5%	1/10W
R9042	1-216-083-00	RES-CHIP	27K	5%	1/10W
R9043	1-215-926-00	METAL OXIDE	33K	5%	3W
R9044	1-215-926-00	METAL OXIDE	33K	5%	3W
R9047	1-202-557-00	SOLID	220	20%	1/2W
R9048	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9049	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9051	1-202-557-00	SOLID	220	20%	1/2W
R9052	1-202-557-00	SOLID	220	20%	1/2W
R9055	1-260-126-81	CARBON	180K	5%	1/2W
R9056	1-202-549-00	SOLID	100	20%	1/2W
R9057	1-202-847-00	SOLID	560K	20%	1/2W
R9059	1-202-818-00	SOLID	1K	20%	1/2W
R9061	1-202-549-00	SOLID	100	20%	1/2W
R9062	1-260-123-11	CARBON	100K	5%	1/2W
R9063	1-260-123-11	CARBON	100K	5%	1/2W
R9064	1-260-126-81	CARBON	180K	5%	1/2W
R9067	1-219-769-11	CARBON	3.3M	5%	1/2W
R9070	1-247-807-31	CARBON	100	5%	1/4W
R9071	1-247-807-31	CARBON	100	5%	1/4W
R9072	1-247-807-31	CARBON	100	5%	1/4W
R9073	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9076	1-219-769-11	CARBON	3.3M	5%	1/2W
R9077	1-249-417-11	CARBON	1K	5%	1/4W
R9078	1-249-427-11	CARBON	6.8K	5%	1/4W
R9079	1-249-426-11	CARBON	5.6K	5%	1/4W
R9081	1-247-843-11	CARBON	3.3K	5%	1/4W
R9083	1-249-436-11	CARBON	39K	5%	1/4W

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C D

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R9084	1-260-126-81	CARBON	180K	5%	1/2W
R9085	1-260-126-81	CARBON	180K	5%	1/2W
R9089	1-215-442-00	METAL	7.5K	1%	1/4W
R9091	1-215-429-00	METAL	2.2K	1%	1/4W
R9092	1-216-295-91	SHORT			
R9094	1-216-295-91	SHORT			
R9095	1-216-295-91	SHORT			
		VARIABLE RESISTOR			
⚠ RV9001	1-241-714-11	RES, ADJ, METAL FILM	110M		
RV9002	1-241-788-11	RES, ADJ, CARBON	100K		

D

* **A-1348-066-A** **D BOARD, COMPLETE**

The high voltage leads associated with the FBT on this board are not included and must be ordered separately. Order the following leads when requesting this board.

⚠	1-251-715-12	CAP ASSY, HIGH-VOLTAGE	
⚠	1-900-805-19	WIRE ASSY, FOCUS HV	
	4-047-285-01	SHEET, INSULATING	
	4-382-854-01	SCREW (M3X8), P, SW (+)	
	4-382-854-21	SCREW (M3X14), P, SW (+)	
		SILICONE	
* A5004	7-322-065-48	RUBBER, SILICONE RTV (KE-3490)	
		CAPACITOR	

C5001	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C5002	1-106-383-00	MYLAR	0.047µF	10%	200V
C5004	1-106-383-00	MYLAR	0.047µF	10%	200V
C5005	1-126-235-11	ELECT	100µF	20%	6.3V
C5006	1-126-964-11	ELECT	10µF	20%	50V
C5007	1-126-941-11	ELECT	470µF	20%	25V
C5008	1-126-940-11	ELECT	330µF	20%	25V
C5009	1-126-941-11	ELECT	470µF	20%	25V
C5011	1-107-641-11	ELECT	220µF	20%	160V
C5012	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C5013	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C5015	1-107-884-11	ELECT	1000µF	20%	16V
C5016	1-136-171-00	FILM	0.33µF	5%	50V
C5017	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C5018	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5019	1-126-968-11	ELECT	100µF	20%	50V
C5020	1-126-767-11	ELECT	1000µF	20%	16V
C5021	1-163-133-00	CERAMIC CHIP	470pF	5%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C5022	1-137-368-11	MYLAR	.0047µF	5%	50V
C5023	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5024	1-102-038-00	CERAMIC	0.001µF		500V
C5025	1-130-471-00	MYLAR	0.001µF	5%	50V
C5026	1-107-655-11	ELECT	47µF	20%	250V
C5027	1-126-963-11	ELECT	4.7µF	20%	50V
C5028	1-126-963-11	ELECT	4.7µF	20%	50V
C5030	1-136-153-00	FILM	0.01µF	5%	50V
C5031	1-163-011-11	CERAMIC CHIP	0.0015µF	10%	50V
C5032	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C5033	1-136-165-00	FILM	0.1µF	5%	50V
C5034	1-162-114-00	CERAMIC	.0047µF		2KV
C5035	1-126-933-11	ELECT	100µF	20%	16V
C5036	1-126-941-11	ELECT	470µF	20%	25V
C5037	1-107-670-11	ELECT	10µF	20%	400V
C5038	1-126-947-11	ELECT	47µF	20%	16V
C5040	1-126-935-11	ELECT	470µF	20%	16V
C5041	1-126-935-11	ELECT	470µF	20%	16V
C5043	1-126-767-11	ELECT	1000µF	20%	16V
C5044	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C5045	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C5046	1-163-025-11	CERAMIC CHIP	0.001µF		50V
C5047	1-163-025-11	CERAMIC CHIP	0.001µF		50V
C5049	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C5050	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5051	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5052	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5053	1-107-372-11	MYLAR	0.22µF	10%	200V
C5056	1-162-318-11	CERAMIC	0.001µF	10%	500V
C5057	1-162-134-11	CERAMIC	470pF	10%	2KV
C5058	1-162-116-00	CERAMIC	680pF	10%	2KV
C5059	1-162-116-00	CERAMIC	680pF	10%	2KV
C5060	1-137-417-11	MYLAR	.0047µF	10%	200V
C5061	1-117-838-11	FILM	8200pF	3%	1.5KV
C5063	1-117-838-11	FILM	8200pF	3%	1.5KV
C5064	1-117-668-31	FILM	0.56µF	5%	250V
C5065	1-109-837-11	FILM	0.56µF	5%	400V
C5066	1-109-921-11	CERAMIC	0.0015µF	10%	500V
C5069	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5070	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5071	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5072	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5073	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C5075	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5076	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5077	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5079	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5080	1-137-372-11	MYLAR	0.022µF	5%	50V

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C5081	1-137-372-11	MYLAR	0.022µF	5%	50V
C5102	1-107-888-11	ELECT	47µF	20%	25V
C5501	1-107-888-11	ELECT	47µF	20%	25V
C5502	1-126-941-11	ELECT	470µF	20%	25V
C5503	1-104-665-11	ELECT	100µF	20%	25V
C5504	1-126-947-11	ELECT	47µF	20%	16V
C5505	1-126-964-11	ELECT	10µF	20%	50V
C5506	1-126-963-11	ELECT	4.7µF	20%	50V
C5507	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C5508	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C5509	1-163-263-11	CERAMIC CHIP	330pF	5%	50V
C5511	1-126-933-11	ELECT	100µF	20%	16V
C5514	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5518	1-129-709-61	FILM	0.0039µF	5%	630V
C5519	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C5522	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C5531	1-136-165-00	FILM	0.1µF	5%	50V
C5533	1-137-366-11	MYLAR	0.0022µF	5%	50V
C5542	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
C5548	1-137-194-81	FILM	0.47µF	5%	50V
C5550	1-129-716-00	FILM	0.015µF	5%	200V
C5576	1-104-666-11	ELECT	220µF	20%	25V
C5577	1-104-666-11	ELECT	220µF	20%	25V
C5587	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C5588	1-136-153-00	FILM	0.01µF	5%	50V
C5590	1-163-263-11	CERAMIC CHIP	330pF	5%	50V
C5592	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5594	1-136-165-00	FILM	0.1µF	5%	50V
C5596	1-126-960-11	ELECT	1µF	20%	50V
C5598	1-126-947-11	ELECT	47µF	20%	16V
C5600	1-126-947-11	ELECT	47µF	20%	16V
C5601	1-136-165-00	FILM	0.1µF	5%	50V
C5602	1-126-947-11	ELECT	47µF	20%	16V
C5603	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C5605	1-136-177-00	FILM	1µF	5%	50V
C5607	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C5609	1-104-665-11	ELECT	100µF	20%	25V
C5610	1-126-935-11	ELECT	470µF	20%	16V
C5611	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C5612	1-126-964-11	ELECT	10µF	20%	50V
C5613	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C5614	1-126-964-11	ELECT	10µF	20%	50V
C5616	1-136-165-00	FILM	0.1µF	5%	50V
C5617	1-126-947-11	ELECT	47µF	20%	16V
C5618	1-136-171-00	FILM	0.33µF	5%	50V
C5619	1-163-127-00	CERAMIC CHIP	270pF	5%	50V
C5621	1-136-165-00	FILM	0.1µF	5%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C5623	1-126-933-11	ELECT	100µF	20%	16V
C5625	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C5628	1-126-933-11	ELECT	100µF	20%	16V
C6503	1-131-940-11	ELECT	1200µF	20%	250V
C6504	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C6505	1-165-127-11	CERAMIC	470pF	10%	500V
C6506	1-165-127-11	CERAMIC	470pF	10%	500V
C6507	1-126-967-11	ELECT	47µF	20%	50V
C6508	1-126-947-11	ELECT	47µF	20%	25V
C6510	1-130-495-00	MYLAR	0.1µF	5%	50V
C6511	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C6516	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C6517	1-126-963-11	ELECT	4.7µF	20%	50V
C6518	1-136-479-11	FILM	0.001µF	2%	50V
C6519	1-126-964-11	ELECT	10µF	20%	50V
C6525	1-164-143-11	CERAMIC	0.001µF	10%	1KV
C6526	1-164-143-11	CERAMIC	0.001µF	10%	1KV
C6532	1-135-998-21	FILM	56000pF	3%	800V
C6544	1-107-855-12	ELECT(BLOCK)	330µF		160V
C6545	1-126-943-11	ELECT	2200µF	20%	25V
C6546	1-128-548-11	ELECT	4700µF	20%	25V
C6547	1-113-610-11	ELECT(BLOCK)	220µF	20%	250V
C6548	1-128-549-11	ELECT	3300µF	20%	35V
C6551	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C6561	1-126-960-11	ELECT	1µF	20%	50V
⚠ C6584	1-136-344-11	MYLAR	0.047µF	20%	125V
⚠ C6585	1-119-899-51	CERAMIC	1000pF	10%	250V
C6586	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6587	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6588	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6589	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6590	1-131-940-11	ELECT	1200µF	20%	250V
⚠ C6591	1-119-899-51	CERAMIC	1000pF	10%	250V
C6594	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C6595	1-104-665-11	ELECT	100µF	20%	25V
C6596	1-126-960-11	ELECT	1µF	20%	50V
C8002	1-136-169-00	FILM	0.22µF	5%	50V
C8004	1-104-665-11	ELECT	100µF	20%	10V
C8005	1-126-947-11	ELECT	47µF	20%	25V
C8006	1-126-960-11	ELECT	1µF	20%	50V
C8007	1-137-150-11	MYLAR	0.01µF	5%	50V
C8009	1-126-964-11	ELECT	10µF	20%	50V
C8011	1-126-961-11	ELECT	2.2µF	20%	50V
C8012	1-126-966-11	ELECT	33µF	20%	50V
C8013	1-126-964-11	ELECT	10µF	20%	50V
C8014	1-126-964-11	ELECT	10µF	20%	50V
C8015	1-126-966-11	ELECT	33µF	20%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C8016	1-130-495-00	MYLAR	0.1µF	5%	50V
C8017	1-126-964-11	ELECT	10µF	20%	50V
C8018	1-126-964-11	ELECT	10µF	20%	50V
C8019	1-104-665-11	ELECT	100µF	20%	10V
C8020	1-136-103-00	FILM	0.1µF	5%	200V
C8021	1-137-150-11	MYLAR	0.01µF	5%	50V
C8022	1-126-933-11	ELECT	100µF	20%	16V
C8023	1-113-611-11	ELECT(BLOCK)	820µF	20%	250V
C8024	1-126-967-11	ELECT	47µF	20%	50V
C8025	1-126-947-11	ELECT	47µF	20%	25V
C8027	1-130-495-00	MYLAR	0.1µF	5%	50V
C8028	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C8030	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C8031	1-128-551-11	ELECT	22µF	20%	25V
C8032	1-136-813-11	FILM	680pF	2%	50V
C8033	1-126-964-11	ELECT	10µF	20%	50V
C8035	1-125-969-91	CERAMIC	680pF	10%	1KV
C8036	1-125-969-91	CERAMIC	680pF	10%	1KV
C8037	1-135-946-21	FILM	47000pF	3%	800V
C8039	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C8040	1-126-969-11	ELECT	220µF	20%	50V
C8041	1-137-194-81	FILM	0.47µF	5%	50V
C8042	1-136-103-00	FILM	0.1µF	5%	200V
C8045	1-130-471-00	MYLAR	0.001µF	5%	50V
C8046	1-107-444-11	CERAMIC	100pF	10%	2KV
C8047	1-162-130-11	CERAMIC	180pF	10%	2KV
C8048	1-130-495-00	MYLAR	0.1µF	5%	50V
C8050	1-129-718-61	FILM	0.022µF	5%	630V
C8051	1-126-964-11	ELECT	10µF	20%	50V
C8053	1-162-117-00	CERAMIC	100pF	10%	500V
C8054	1-102-244-00	CERAMIC	220pF	10%	500V
C8055	1-136-535-61	FILM	0.0018µF	5%	630V
C8056	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C8058	1-137-194-81	FILM	0.47µF	5%	50V
C8059	1-126-947-11	ELECT	47µF	20%	10V
C8060	1-107-635-11	ELECT	4.7µF	20%	160V
C8063	1-136-203-11	MYLAR	0.01µF	10%	630V

CONNECTOR

*	CN5002	1-580-798-11	CONNECTOR PIN (DY)	6P
*	CN5003	1-766-242-11	PIN,CONNECTOR (PC BOARD)	4P
*	CN5501	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P
*	CN5503	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
*	CN5505	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
	CN5506	1-573-979-21	CONNECTOR, BOARD TO BOARD	11P
*	CN5509	1-564-515-11	PLUG,CONNECTOR	12P
*	CN5510	1-564-506-11	PLUG,CONNECTOR	3P
*	CN6501	1-766-176-11	PIN,CONNECTOR (PC BOARD)	6P
*	CN6502	1-766-240-11	PIN,CONNECTOR (PC BOARD)	2P
*	CN6503	1-564-511-11	PLUG,CONNECTOR	8P
*	CN6504	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P
*	CN6505	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P
*	CN6506	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P

DIODE

D5001	8-719-109-85	DIODE MTZJ-T-77-5.1B
D5002	8-719-908-03	DIODE GP08DPKG23
D5003	8-719-920-67	DIODE ERC91-02E
D5004	8-719-083-82	DIODE UDZS-TE17-12B
D5005	8-719-404-50	DIODE MA111-TX
D5006	8-719-109-72	DIODE MTZJ-T-77-3.9B
D5007	8-719-109-51	DIODE RD2.0ES-T1B1
D5008	8-719-404-50	DIODE MA111-TX
D5009	8-719-404-50	DIODE MA111-TX
D5010	8-719-404-50	DIODE MA111-TX
D5011	8-719-109-63	DIODE RD3.0ES-T1B2
D5012	8-719-018-82	DIODE RGP02-20EL-6394
D5013	8-719-302-43	DIODE RGP10GPKG23
D5014	8-719-510-37	DIODE D5LC20U
D5015	8-719-302-43	DIODE RGP10GPKG23
D5016	8-719-920-67	DIODE ERC91-02E
D5017	8-719-920-67	DIODE ERC91-02E
D5018	8-719-110-41	DIODE MTZJ-T-77-15B
D5019	8-719-404-50	DIODE MA111-TX
D5021	8-719-404-50	DIODE MA111-TX
D5023	8-719-061-21	DIODE PG124S15
D5026	8-719-404-50	DIODE MA111-TX
D5027	8-719-404-50	DIODE MA111-TX
D5028	8-719-404-50	DIODE MA111-TX
D5029	8-719-404-50	DIODE MA111-TX
D5031	8-719-977-28	DIODE UDZSTE-1710B
D5032	8-719-404-50	DIODE MA111-TX
D5501	8-719-404-50	DIODE MA111-TX
D5502	8-719-404-50	DIODE MA111-TX
D5503	8-719-404-50	DIODE MA111-TX
D5505	8-719-800-76	DIODE MA153-TX
D5506	8-719-404-50	DIODE MA111-TX
D5507	8-719-800-76	DIODE MA153-TX
D5513	8-719-991-33	DIODE 1SS133T-77
D5514	8-719-063-70	DIODE D1NL20U-TA2
D5515	8-719-063-70	DIODE D1NL20U-TA2
D5522	8-719-923-78	DIODE MTZJ-T-77-12
D5523	8-719-923-78	DIODE MTZJ-T-77-12
D6501	8-719-404-50	DIODE MA111-TX
D6502	8-719-979-64	DIODE µF4005PKG23

REF.NO.	PART NO.	DESCRIPTION	VALUES
D6507	1-216-295-91	SHORT	
D6508	8-719-982-27	DIODE MTZJ-T-77-33C	
D6509	8-719-068-00	DIODE ERC04-06SE	
D6510	8-719-068-00	DIODE ERC04-06SE	
D6513	8-719-500-71	DIODE D8LC40F	
D6514	8-719-060-89	DIODE D4SBS6-F	
D6515	8-719-060-90	DIODE S2L60F	
D6516	8-719-060-89	DIODE D4SBS6-F	
D6517	8-719-060-90	DIODE S2L60F	
D6522	8-719-404-50	DIODE MA111-TX	
D6530	8-719-022-99	DIODE D6SB60L	
D6532	8-719-948-45	DIODE ERA22-08TP3	
D6533	8-719-404-50	DIODE MA111-TX	
D6534	8-719-052-90	DIODE D1NL40-TA2	
D6537	8-719-404-50	DIODE MA111-TX	
D8002	8-719-404-50	DIODE MA111-TX	
D8003	8-719-404-50	DIODE MA111-TX	
D8004	8-719-109-85	DIODE MTZJ-T-77-5.1B	
D8005	8-719-404-50	DIODE MA111-TX	
D8006	8-719-921-89	DIODE MTZJ-T-77-13C	
D8007	8-719-404-50	DIODE MA111-TX	
D8009	8-719-404-50	DIODE MA111-TX	
D8010	8-719-052-90	DIODE D1NL40-TA2	
D8013	8-719-063-70	DIODE D1NL20U-TA2	
D8014	8-719-302-43	DIODE RGP10GPKG23	
D8016	8-719-948-45	DIODE ERA22-08TP3	
D8017	8-719-948-45	DIODE ERA22-08TP3	
D8018	8-719-052-90	DIODE D1NL40-TA2	
D8019	8-719-110-41	DIODE MTZJ-T-77-15B	
D8020	8-719-404-50	DIODE MA111-TX	
D8021	8-719-404-50	DIODE MA111-TX	
D8022	8-719-404-50	DIODE MA111-TX	
D8025	8-719-982-26	DIODE MTZJ-T-77-33B	
D8026	8-719-404-50	DIODE MA111-TX	
D8027	8-719-404-50	DIODE MA111-TX	
D8028	8-719-991-33	DIODE 1SS133T-77	
D8050	8-719-923-86	DIODE MTZJ-T-77-15	
D8051	8-719-923-86	DIODE MTZJ-T-77-15	

FERRITE BEAD

FB5001	1-410-397-21	FERRITE	1.1µH
FB5002	1-543-298-11	FERRITE	0µH
FB6501	1-410-397-21	FERRITE	1.1µH
FB6502	1-410-396-41	FERRITE	0.45µH
FB6504	1-410-397-21	FERRITE	1.1µH
FB6505	1-412-911-11	FERRITE	0µH
FB6506	1-412-911-11	FERRITE	0µH
FB6508	1-410-396-41	FERRITE	0.45µH
FB6509	1-410-396-41	FERRITE	0.45µH
FB8001	1-410-396-41	FERRITE	0.45µH

IC

IC5001	8-759-701-01	IC NJM2904M(TE2)	
IC5002	8-759-700-07	IC NJM2903M-TE2	
IC5003	8-759-518-68	IC PQ12RF21	
IC5004	8-759-192-71	IC STV9379	
IC5005	8-759-803-42	IC LA6500-FA	
IC5006	8-749-013-76	IC PQ6RD83B	
IC5007	8-759-981-61	IC NJM2901M-TE2	
IC5008	8-759-675-90	IC BA51W12ST-V5	
IC5501	6-700-149-01	IC M24C04-MN6T(A)	
IC5502	8-759-981-61	IC NJM2901M-TE2	
IC5504	8-759-803-42	IC LA6500-FA	
IC5506	8-759-803-42	IC LA6500-FA	
IC5510	8-759-803-42	IC LA6500-FA	
IC5511	8-752-074-64	IC CXA2026AS	
IC5512	8-759-929-65	IC NJM79M12FA	
IC5513	8-759-595-52	IC CXA8070AP	
IC5514	8-759-803-42	IC LA6500-FA	
IC5515	8-749-016-08	IC STK390-910	
IC6501	8-759-670-30	IC MCZ3001D	
IC6503	8-749-012-13	IC DM-58	
IC6505	8-749-921-86	IC SE-140N	
IC8001	8-759-981-61	IC NJM2901M-TE2	
IC8002	8-759-670-30	IC MCZ3001D	
IC8003	8-759-198-31	IC UPC1093J-1-T	
IC8004	8-759-701-01	IC NJM2904M(TE2)	

CHIP CONDUCTOR

JR5006	1-216-295-91	SHORT	
JR5007	1-216-295-91	SHORT	
JR5010	1-216-295-91	SHORT	
JR5502	1-216-295-91	SHORT	
JR6501	1-216-295-91	SHORT	
JR8001	1-216-295-91	SHORT	
JR8002	1-216-295-91	SHORT	
JR8003	1-216-295-91	SHORT	
JR8004	1-216-295-91	SHORT	
JR8005	1-216-295-91	SHORT	
JR8006	1-216-295-91	SHORT	
JR8007	1-216-295-91	SHORT	
JR8050	1-216-295-91	SHORT	
JR8051	1-216-295-91	SHORT	

D

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	VALUES
	COIL		
L5001	1-406-665-11	INDUCTOR	100µH
L5002	1-406-663-21	INDUCTOR	47µH
L5003	1-406-892-21	INDUCTOR	4MH
L5004	1-412-525-31	INDUCTOR	10µH
L5005	1-419-181-11	COIL, HORIZONTAL LINEARITY	
L5504	1-406-989-21	INDUCTOR	10MH
L5505	1-406-989-21	INDUCTOR	10MH
L5601	1-408-612-31	INDUCTOR	56µH
L6503	1-412-525-31	INDUCTOR	10µH
L6504	1-412-525-31	INDUCTOR	10µH
L6505	1-406-665-11	INDUCTOR	100µH
L8001	1-406-670-11	INDUCTOR	680µH
L8002	1-419-658-11	INDUCTOR	107µH
L8005	1-406-674-11	INDUCTOR	3.3MH
	PHOTO COUPLER		
PH6501	8-749-924-35	PHOTO COUPLER	ON3171-R
⚠ PH6502	8-749-924-35	PHOTO COUPLER	ON3171-R
⚠ PH6503	8-749-924-35	PHOTO COUPLER	ON3171-R
PH8001	8-749-924-35	PHOTO COUPLER	ON3171-R
	IC LINK		
⚠ PS6501	1-576-390-91	LINK, IC	
⚠ PS6502	1-576-390-91	LINK, IC	
	TRANSISTOR		
Q5001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5002	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5003	8-729-015-28	TRANSISTOR IRFI9630G	
Q5004	8-729-019-57	TRANSISTOR 2SA1208S-TP	
Q5005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5007	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5008	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5011	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5012	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q5013	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5014	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5015	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q5016	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q5017	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q5018	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5019	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5020	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5021	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5022	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5023	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5026	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5027	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5028	8-729-322-27	TRANSISTOR 2SK2182	
Q5030	8-729-052-71	TRANSISTOR 2SC3997S-SONY-RA	
Q5031	8-729-053-24	TRANSISTOR 2SK3262-01MR	
Q5033	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q5034	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5035	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5036	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5037	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5501	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5502	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q5503	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q5504	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5505	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q5506	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5507	8-729-931-45	TRANSISTOR IRF614	
Q5508	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5509	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6503	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6506	8-729-052-32	TRANSISTOR IRFIB7N50A-LF31	
Q6507	8-729-052-32	TRANSISTOR IRFIB7N50A-LF31	
Q6520	8-729-019-57	TRANSISTOR 2SA1208S-TP	
Q6521	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q6522	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA	
Q6524	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA	
Q6526	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6527	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q6528	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6529	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6530	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6531	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6532	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8004	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8007	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8009	8-729-200-17	TRANSISTOR 2SA1091O-TPE2	
Q8010	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8013	8-729-044-42	TRANSISTOR IRFI644G-LF36	
Q8014	8-729-044-42	TRANSISTOR IRFI644G-LF36	
Q8015	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q8016	8-729-045-65	TRANSISTOR 2SA1776TV2Q	
Q8018	8-729-043-95	TRANSISTOR 2SC3840K	
Q8019	1-801-806-11	TRANSISTOR DTC144EKA-T146	

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q8020	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q8022	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q8023	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
	RESISTOR				
R5001	1-216-001-00	RES-CHIP	10	5%	1/10W
R5002	1-216-033-00	RES-CHIP	220	5%	1/10W
R5003	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5004	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5005	1-216-033-00	RES-CHIP	220	5%	1/10W
R5007	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5008	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5009	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5011	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5012	1-208-814-91	METAL CHIP	22K	0.50%	1/10W
R5013	1-216-393-00	METAL OXIDE	2.2	5%	3W
R5014	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R5016	1-208-832-11	METAL CHIP	120K	0.50%	1/10W
R5017	1-208-832-11	METAL CHIP	120K	0.50%	1/10W
R5018	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5019	1-249-429-11	CARBON	10K	5%	1/4W
R5020	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R5021	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R5022	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R5023	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5024	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5025	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R5026	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5027	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R5028	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5029	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5030	1-216-295-91	SHORT			
R5031	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R5033	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5036	1-216-085-91	RES-CHIP	33K	5%	1/10W
R5037	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5038	1-216-075-00	RES-CHIP	12K	5%	1/10W
R5039	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5040	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5041	1-249-383-11	CARBON	1.5	5%	1/4W
R5042	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5043	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5044	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5045	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5046	1-214-798-21	METAL	1.8	1%	1/2W
R5047	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5048	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R5049	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5050	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5051	1-249-414-11	CARBON	560	5%	1/4W
R5052	1-214-796-00	METAL	1.5	1%	1/2W
R5053	1-215-890-11	METAL OXIDE	470	5%	2W
R5054	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5055	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5056	1-216-105-91	RES-CHIP	220K	5%	1/10W
R5057	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5058	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5059	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5063	1-208-813-11	METAL CHIP	20K	0.50%	1/10W
R5064	1-218-761-11	METAL CHIP	240K	0.50%	1/10W
R5065	1-218-761-11	METAL CHIP	240K	0.50%	1/10W
R5066	1-208-792-11	METAL CHIP	2.7K	0.50%	1/10W
R5067	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R5068	1-216-105-91	RES-CHIP	220K	5%	1/10W
R5069	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5070	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5071	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5072	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5073	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5074	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5075	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5076	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5077	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R5078	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5079	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5080	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5081	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5082	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5083	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R5084	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5085	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5086	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5087	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5088	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5089	1-216-372-11	METAL OXIDE	1.8	5%	2W
R5090	1-216-372-11	METAL OXIDE	1.8	5%	2W
R5091	1-249-389-11	CARBON	4.7	5%	1/4W
R5092	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5093	1-208-807-11	METAL CHIP	11K	0.50%	1/10W
R5094	1-215-869-11	METAL OXIDE	1K	5%	1W
R5095	1-249-443-11	CARBON	0.47	5%	1/4W
R5096	1-249-443-11	CARBON	0.47	5%	1/4W
R5097	1-249-380-11	CARBON	0.82	5%	1/4W
R5098	1-249-379-11	CARBON	0.68	5%	1/4W
R5101	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5102	1-208-782-11	METAL CHIP	1K	0.50%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R5103	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R5104	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5105	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5106	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5107	1-249-401-11	CARBON	47	5%	1/4W
R5108	1-208-819-11	METAL CHIP	36K	0.50%	1/10W
R5109	1-208-808-11	METAL CHIP	12K	0.50%	1/10W
R5110	1-249-401-11	CARBON	47	5%	1/4W
R5111	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5112	1-216-033-00	RES-CHIP	220	5%	1/10W
R5113	1-249-425-11	CARBON	4.7K	5%	1/4W
R5114	1-249-425-11	CARBON	4.7K	5%	1/4W
R5115	1-249-417-11	CARBON	1K	5%	1/4W
R5116	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5117	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5120	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5121	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5122	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5123	1-216-295-91	SHORT			
R5124	1-216-295-91	SHORT			
R5125	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5126	1-216-025-11	RES-CHIP	100	5%	1/10W
R5127	1-215-890-11	METAL OXIDE	470	5%	2W
R5128	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5129	1-216-025-11	RES-CHIP	100	5%	1/10W
R5130	1-249-401-11	CARBON	47	5%	1/4W
R5131	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R5132	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5133	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5134	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5135	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5136	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5137	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5138	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5139	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5140	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5141	1-215-915-11	METAL OXIDE	470	5%	3W
R5142	1-216-386-11	METAL OXIDE	0.56	5%	3W
R5143	1-216-385-11	METAL OXIDE	0.47	5%	3W
R5144	1-216-385-11	METAL OXIDE	0.47	5%	3W
R5145	1-215-880-00	METAL OXIDE	10	5%	2W
R5146	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5147	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R5148	1-215-865-11	METAL OXIDE	220	5%	1W
R5149	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5150	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5151	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5152	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5153	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5154	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5155	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5156	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5157	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5158	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5159	1-216-025-11	RES-CHIP	100	5%	1/10W
R5160	1-216-025-11	RES-CHIP	100	5%	1/10W
R5161	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5163	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R5501	1-216-033-00	RES-CHIP	220	5%	1/10W
R5502	1-216-295-91	SHORT			
R5503	1-216-017-91	RES-CHIP	47	5%	1/10W
R5504	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
R5505	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
R5506	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5507	1-216-017-91	RES-CHIP	47	5%	1/10W
R5508	1-216-025-11	RES-CHIP	100	5%	1/10W
R5509	1-216-025-11	RES-CHIP	100	5%	1/10W
R5510	1-216-025-11	RES-CHIP	100	5%	1/10W
R5511	1-216-295-91	SHORT			
R5512	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5513	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5514	1-216-295-91	SHORT			
R5516	1-208-792-11	METAL CHIP	2.7K	0.50%	1/10W
R5518	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5519	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5520	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R5521	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5522	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5523	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5525	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5526	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5527	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5528	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5529	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5530	1-216-025-11	RES-CHIP	100	5%	1/10W
R5531	1-216-001-00	RES-CHIP	10	5%	1/10W
R5532	1-216-001-00	RES-CHIP	10	5%	1/10W
R5535	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5536	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5544	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R5545	1-208-818-11	METAL CHIP	33K	0.50%	1/10W
R5547	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5548	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5554	1-208-812-11	METAL CHIP	18K	0.50%	1/10W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R5563	1-208-801-11	METAL CHIP	6.2K	0.50%	1/10W
R5564	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5565	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5573	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5576	1-249-395-11	CARBON	15	5%	1/4W
R5577	1-208-836-11	METAL CHIP	180K	0.50%	1/10W
R5578	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R5579	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5581	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5585	1-208-846-11	METAL CHIP	470K	0.50%	1/10W
R5588	1-216-353-00	METAL OXIDE	2.2	5%	1W
R5599	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5615	1-249-395-11	CARBON	15	5%	1/4W
R5623	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5645	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5647	1-208-758-11	METAL CHIP	100	0.50%	1/10W
R5648	1-216-383-11	METAL OXIDE	0.33	5%	3W
R5649	1-215-886-11	METAL OXIDE	100	5%	2W
R5650	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5657	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5666	1-216-091-00	RES-CHIP	56K	5%	1/10W
R5669	1-208-789-11	METAL CHIP	2K	0.50%	1/10W
R5670	1-208-820-11	METAL CHIP	39K	0.50%	1/10W
R5672	1-216-109-00	RES-CHIP	330K	5%	1/10W
R5678	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
R5679	1-249-395-11	CARBON	15	5%	1/4W
R5680	1-249-383-11	CARBON	1.5	5%	1/4W
R5684	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5685	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R5686	1-208-778-11	METAL CHIP	680	0.50%	1/10W
R5688	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R5689	1-216-017-91	RES-CHIP	47	5%	1/10W
R5690	1-216-017-91	RES-CHIP	47	5%	1/10W
R5692	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R5693	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5694	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5696	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
R5697	1-208-764-11	METAL CHIP	180	0.50%	1/10W
R5698	1-208-801-11	METAL CHIP	6.2K	0.50%	1/10W
R5699	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5700	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5702	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R5704	1-214-657-11	METAL	1	1%	1/4W
R5705	1-214-657-11	METAL	1	1%	1/4W
R5707	1-216-017-91	RES-CHIP	47	5%	1/10W
R5708	1-216-429-00	METAL OXIDE	270	5%	1W
R5709	1-216-017-91	RES-CHIP	47	5%	1/10W
R5710	1-216-429-00	METAL OXIDE	270	5%	1W
R5711	1-260-288-11	CARBON	0.47	5%	1/2W
R5712	1-260-288-11	CARBON	0.47	5%	1/2W
R5713	1-215-867-00	METAL OXIDE	470	5%	1W
R5714	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5715	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5716	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5717	1-216-093-91	RES-CHIP	68K	5%	1/10W
R6501	1-208-757-11	METAL CHIP	91	0.50%	1/10W
R6502	1-260-131-11	CARBON	470K	5%	1/2W
R6503	1-208-758-11	METAL CHIP	100	0.50%	1/10W
R6504	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6506	1-249-377-11	CARBON	0.47	5%	1/4W
R6507	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6508	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6509	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6510	1-215-859-00	METAL OXIDE	22	5%	1W
R6511	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6512	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6513	1-215-481-00	METAL	330K	1%	1/4W
R6514	1-215-481-00	METAL	330K	1%	1/4W
R6515	1-260-131-11	CARBON	470K	5%	1/2W
⚠ R6516	1-202-962-11	CEMENTED	3.3	5%	10W
R6517	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
R6518	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R6519	1-216-295-91	SHORT			
R6521	1-260-328-11	CARBON	1K	5%	1/2W
R6522	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6523	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6524	1-216-295-91	SHORT			
R6525	1-216-041-00	RES-CHIP	470	5%	1/10W
R6526	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R6527	1-216-093-91	RES-CHIP	68K	5%	1/10W
R6528	1-216-025-11	RES-CHIP	100	5%	1/10W
R6529	1-249-393-11	CARBON	10	5%	1/4W
R6530	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6531	1-249-393-11	CARBON	10	5%	1/4W
R6532	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6533	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6534	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6535	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6536	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6537	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6538	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6539	1-215-877-11	METAL OXIDE	22K	5%	1W
R6540	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6541	1-216-077-91	RES-CHIP	15K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R6542	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6543	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
R6544	1-216-295-91	SHORT			
R6547	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6550	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6552	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6553	1-216-109-00	RES-CHIP	330K	5%	1/10W
R6556	1-217-625-00	METAL	0.05	10%	2W
R6557	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6583	1-216-077-91	RES-CHIP	15K	5%	1/10W
⚠ R6590	1-249-415-11	CARBON	680	5%	1/4W
R6591	1-216-341-11	METAL OXIDE	0.22	5%	1W
R6593	1-249-405-11	CARBON	100	5%	1/4W
R6596	1-215-445-00	METAL	10K	1%	1/4W
R6597	1-215-469-00	METAL	100K	1%	1/4W
R6598	1-216-342-21	METAL OXIDE	0.27	5%	1W
R6599	1-249-417-11	CARBON	1K	5%	1/4W
R6600	1-215-445-00	METAL	10K	1%	1/4W
R6602	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6603	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6604	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6605	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6612	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6614	1-260-298-51	CARBON	3.3	5%	1/2W
R6646	1-215-481-00	METAL	330K	1%	1/4W
R8001	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8002	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8003	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8004	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8005	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8006	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8007	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8008	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8009	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8010	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8011	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8013	1-216-295-91	SHORT			
R8016	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R8017	1-216-295-91	SHORT			
R8018	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8019	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8020	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8021	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8022	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8023	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8024	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8025	1-208-826-11	METAL CHIP	68K	0.50%	1/10W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R8026	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8027	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R8028	1-208-818-11	METAL CHIP	33K	0.50%	1/10W
R8029	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R8030	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R8031	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R8032	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8033	1-208-781-11	METAL CHIP	910	0.50%	1/10W
R8034	1-216-091-00	RES-CHIP	56K	5%	1/10W
⚠ R8035	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
⚠ R8036	1-215-444-00	METAL	9.1K	1%	1/4W
⚠ R8037	1-215-444-00	METAL	9.1K	1%	1/4W
⚠ R8038	1-215-444-00	METAL	9.1K	1%	1/4W
⚠ R8039	1-215-444-00	METAL	9.1K	1%	1/4W
⚠ R8040	1-215-444-00	METAL	9.1K	1%	1/4W
R8041	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R8042	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R8043	1-216-349-00	METAL OXIDE	1	5%	1W
R8044	1-208-837-11	METAL CHIP	200K	0.50%	1/10W
R8047	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8049	1-208-758-11	METAL CHIP	100	0.50%	1/10W
R8050	1-216-615-11	METAL CHIP	33	0.50%	1/10W
R8051	1-220-926-11	FUSIBLE	0.47	10%	1/2W
R8053	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
R8054	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
R8055	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
R8056	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
R8057	1-208-809-11	METAL CHIP	13K	0.50%	1/10W
R8058	1-249-393-11	CARBON	10	5%	1/4W
R8059	1-216-295-91	SHORT			
R8060	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R8061	1-249-393-11	CARBON	10	5%	1/4W
R8062	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8063	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8065	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8066	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8068	1-216-295-91	SHORT			
R8069	1-249-419-11	CARBON	1.5K	5%	1/4W
R8070	1-217-611-00	METAL	0.1	10%	2W
R8071	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8072	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R8073	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R8074	1-208-793-11	METAL CHIP	3K	0.50%	1/10W
R8077	1-218-760-11	METAL CHIP	220K	0.50%	1/10W
R8078	1-218-760-11	METAL CHIP	220K	0.50%	1/10W
R8080	1-249-431-11	CARBON	15K	5%	1/4W
R8081	1-249-377-11	CARBON	0.47	5%	1/4W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

A component identified by this ⋈ symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R8082	1-216-133-91	RES-CHIP	3.3M	5%	1/10W
R8085	1-219-749-91	CARBON	10K	5%	1/2W
R8086	1-219-751-91	CARBON	47K	5%	1/2W
R8087	1-216-295-91	SHORT			
R8089	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8091	1-215-485-00	METAL	470K	1%	1/4W
R8093	1-216-101-00	RES-CHIP	150K	5%	1/10W
R8095	1-215-485-00	METAL	470K	1%	1/4W
R8096	1-216-295-91	SHORT			
R8098	1-249-441-11	CARBON	100K	5%	1/4W
R8099	1-249-441-11	CARBON	100K	5%	1/4W
R8100	1-249-441-11	CARBON	100K	5%	1/4W
R8101	1-216-101-00	RES-CHIP	150K	5%	1/10W
R8102	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8103	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R8104	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8108	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8109	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R8111	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R8112	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8113	1-216-117-00	RES-CHIP	680K	5%	1/10W
R8114	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R8115	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8116	1-216-485-11	METAL OXIDE	5.6K	5%	3W
R8117	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8118	1-216-085-91	RES-CHIP	33K	5%	1/10W
R8119	1-216-485-11	METAL OXIDE	5.6K	5%	3W
R8123	1-216-025-11	RES-CHIP	100	5%	1/10W
R8124	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8125	1-216-001-00	RES-CHIP	10	5%	1/10W
R8126	1-216-001-00	RES-CHIP	10	5%	1/10W
R8127	1-216-295-91	SHORT			
R8137	1-249-417-11	CARBON	1K	5%	1/4W
R8144	1-216-025-11	RES-CHIP	100	5%	1/10W
R8145	1-216-025-11	RES-CHIP	100	5%	1/10W
R8146	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8147	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R8148	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R8149	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R8150	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8151	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8152	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8199	1-249-389-11	CARBON	4.7	5%	1/4W

VARIABLE RESISTOR

⋈⚠RV8001	1-225-630-91	RES, VAR, ADJ, CERMET	20K	
⋈⚠RV8002	1-225-627-91	RES, VAR, ADJ, CERMET	2K	

REF.NO.	PART NO.	DESCRIPTION	VALUES		
		RELAY			
⚠ RY6501	1-755-395-11	RELAY (AC POWER)			
⚠ RY6502	1-755-214-11	RELAY, AC POWER			
		SPARK GAP			
SG8002	1-517-499-21	GAP, SPARK			
SG8005	1-517-499-21	GAP, SPARK			
		TRANSFORMER			
T5001	1-435-621-11	TRANSFORMER, HORIZONTAL OUTPUT			
T5002	1-435-636-11	TRANSFORMER, HORIZONTAL DRIVE			
⚠ T6501	1-435-576-12	TRANSFORMER, CONVERTER (PIT)			
⚠ T8001	1-453-346-11	FBT ASSY NX-6000//JIJ4			
T8002	1-433-934-11	TRANSFORMER, FERRITE (DFT)			
		THERMISTOR			
TH5001	1-800-193-00	THERMISTOR			
TH5002	1-807-796-11	THERMISTOR			

HA

*	**A-1372-978-A**	**HA BOARD, MOUNTED**			
	4-081-603-01	HOLDER, LED			
		CAPACITOR			
C05	1-126-964-11	ELECT	10µF	20%	50V
		CONNECTOR			
* CN01	1-564-515-11	PLUG,CONNECTOR	12P		
		DIODE			
D02	8-719-074-84	DIODE LNK0120022G1			
D03	8-719-064-11	DIODE SPR-325MVW			
D07	8-719-109-89	DIODE RD5.6ES-T1B2			
		IC			
IC01	8-742-212-20	HYB IC SBX3081-71			
		RESISTOR			
R03	1-249-429-11	CARBON	10K	5%	1/4W
R04	1-249-385-11	CARBON	2.2	5%	1/4W
R05	1-247-807-31	CARBON	100	5%	1/4W
R09	1-249-433-11	CARBON	22K	5%	1/4W
R12	1-215-437-00	METAL	4.7K	1%	1/4W
R13	1-215-445-00	METAL	10K	1%	1/4W
R14	1-215-433-00	METAL	3.3K	1%	1/4W

HA HB S

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R15	1-215-427-00	METAL	1.8K	1%	1/4W
R16	1-215-425-00	METAL	1.5K	1%	1/4W
R17	1-215-423-00	METAL	1.2K	1%	1/4W
R18	1-215-419-00	METAL	820	1%	1/4W
R19	1-215-417-00	METAL	680	1%	1/4W
R20	1-215-415-00	METAL	560	1%	1/4W
R21	1-215-411-00	METAL	390	1%	1/4W
R22	1-215-413-00	METAL	470	1%	1/4W
R23	1-215-423-00	METAL	1.2K	1%	1/4W
R24	1-215-427-00	METAL	1.8K	1%	1/4W
	SWITCH				
S01	1-571-032-11	SWITCH PUSH (1 KEY)			
S02	1-762-837-11	SWITCH TACTILE			
S03	1-762-837-11	SWITCH TACTILE			
S04	1-762-837-11	SWITCH TACTILE			
S05	1-762-837-11	SWITCH TACTILE			
S06	1-692-431-21	SWITCH TACTILE			
S07	1-692-431-21	SWITCH TACTILE			
S08	1-692-431-21	SWITCH TACTILE			
S09	1-692-431-21	SWITCH TACTILE			
S10	1-692-431-21	SWITCH TACTILE			
S11	1-692-431-21	SWITCH TACTILE			

HB

*	**A-1372-979-A**	**HB BOARD, MOUNTED**			
	CAPACITOR				
C4600	1-126-960-11	ELECT	1µF	20%	50V
C4601	1-126-960-11	ELECT	1µF	20%	50V
C4602	1-126-959-11	ELECT	0.47µF	20%	50V
C4603	1-126-959-11	ELECT	0.47µF	20%	50V
C4604	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	CONNECTOR				
CN4600	1-764-334-11	PLUG,CONNECTOR	11P		
	FILTER				
FL4600	1-239-583-21	FILTER, EMI			
FL4601	1-239-583-21	FILTER, EMI			
FL4602	1-239-583-21	FILTER, EMI			
	JACK				
J4600	1-770-053-11	TERMINAL BLOCK, S (LIGHT ANGLE)			
	RESISTOR				
R4600	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4601	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4602	1-216-022-00	RES-CHIP	75	5%	1/10W
R4603	1-216-022-00	RES-CHIP	75	5%	1/10W
R4606	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4607	1-216-022-00	RES-CHIP	75	5%	1/10W
	VARISTOR				
VD4600	1-803-974-21	VARISTOR, CHIP			
VD4601	1-803-974-21	VARISTOR, CHIP			
VD4602	1-803-974-21	VARISTOR, CHIP			
VD4603	1-803-974-21	VARISTOR, CHIP			
VD4604	1-803-974-21	VARISTOR, CHIP			
VD4605	1-803-974-21	VARISTOR, CHIP			

S

*	**A-1395-037-A**	**S BOARD, COMPLETE**			
	CAPACITOR				
C4401	1-126-964-11	ELECT	10µF	20%	50V
C4402	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4403	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4404	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C4405	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4406	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4407	1-115-467-11	CERAMIC CHIP	0.22µF	10%	10V
C4408	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C4409	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4410	1-126-964-11	ELECT	10µF	20%	50V
C4413	1-126-964-11	ELECT	10µF	20%	50V
C4414	1-126-964-11	ELECT	10µF	20%	50V
C4415	1-126-961-11	ELECT	2.2µF	20%	50V
C4416	1-126-961-11	ELECT	2.2µF	20%	50V
C4417	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4418	1-126-941-11	ELECT	470µF	20%	25V
C4419	1-104-665-11	ELECT	100µF	20%	25V
C4420	1-104-665-11	ELECT	100µF	20%	25V
C4421	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4422	1-126-964-11	ELECT	10µF	20%	50V
C4423	1-115-467-11	CERAMIC CHIP	0.22µF	10%	10V
C4424	1-126-960-11	ELECT	1µF	20%	50V
C4425	1-126-960-11	ELECT	1µF	20%	50V
C4428	1-115-467-11	CERAMIC CHIP	0.22µF	10%	10V
C4429	1-126-960-11	ELECT	1µF	20%	50V
C4430	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C4431	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4432	1-126-960-11	ELECT	1µF	20%	50V
C4433	1-126-964-11	ELECT	10µF	20%	50V
C4434	1-126-767-11	ELECT	1000µF	20%	16V

S

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C4435	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4436	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C4437	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C4438	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C4440	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4441	1-126-963-11	ELECT	4.7µF	20%	50V
C4442	1-126-959-11	ELECT	0.47µF	20%	50V
C4443	1-126-964-11	ELECT	10µF	20%	50V
C4446	1-136-169-00	FILM	0.22µF	5%	50V
C4447	1-126-963-11	ELECT	4.7µF	20%	50V
C4448	1-126-959-11	ELECT	0.47µF	20%	50V
C4449	1-126-968-11	ELECT	100µF	20%	50V
C4450	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4453	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C4454	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C4455	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C4456	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C4457	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4458	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4459	1-136-158-00	FILM	0.027µF	5%	50V
C4460	1-136-169-00	FILM	0.22µF	5%	50V
C4464	1-136-164-00	FILM	0.082µF	5%	50V
C4465	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C4466	1-136-164-00	FILM	0.082µF	5%	50V
C4467	1-137-368-11	MYLAR	.0047µF	5%	50V
C4468	1-136-158-00	FILM	0.027µF	5%	50V
C4469	1-126-947-11	ELECT	47µF	20%	25V
C4470	1-137-368-11	MYLAR	.0047µF	5%	50V
C4471	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C4472	1-126-967-11	ELECT	47µF	20%	50V
C4473	1-126-967-11	ELECT	47µF	20%	50V

CONNECTOR

* CN4401	1-691-632-21	CONNECTOR, BOARD TO BOARD 15P	

DIODE

D4401	8-719-977-28	DIODE UDZSTE-1710B
D4402	8-719-977-28	DIODE UDZSTE-1710B
D4408	8-719-071-74	DIODE HZU11B1TRF

IC

IC4401	8-759-828-60	IC NJM2181M
IC4402	8-759-331-71	IC NJM4558E(TE2)
IC4403	8-759-678-92	IC BH3868AFS-E2
IC4404	8-759-331-71	IC NJM4558E(TE2)

COIL

L4402	1-414-187-11	INDUCTOR	47µH

REF.NO.	PART NO.	DESCRIPTION	VALUES		

RESISTOR

R4401	1-216-864-11	SHORT			
R4402	1-216-842-11	RES-CHIP	56K	5%	1/16W
R4403	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R4404	1-216-092-00	RES-CHIP	62K	5%	1/10W
R4405	1-216-839-11	RES-CHIP	33K	5%	1/16W
R4406	1-216-809-11	RES-CHIP	100	5%	1/16W
R4407	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4408	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4409	1-216-861-11	RES-CHIP	2.2M	5%	1/16W
R4410	1-216-841-11	RES-CHIP	47K	5%	1/16W
R4411	1-216-824-11	RES-CHIP	1.8K	5%	1/16W
R4412	1-216-841-11	RES-CHIP	47K	5%	1/16W
R4413	1-216-841-11	RES-CHIP	47K	5%	1/16W
R4414	1-216-837-11	RES-CHIP	22K	5%	1/16W
R4415	1-216-837-11	RES-CHIP	22K	5%	1/16W
R4416	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4417	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4418	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4419	1-216-809-11	RES-CHIP	100	5%	1/16W
R4420	1-216-809-11	RES-CHIP	100	5%	1/16W
R4421	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4430	1-216-857-11	RES-CHIP	1M	5%	1/16W
R4432	1-216-857-11	RES-CHIP	1M	5%	1/16W
R4434	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R4438	1-216-840-11	RES-CHIP	39K	5%	1/16W
R4440	1-216-840-11	RES-CHIP	39K	5%	1/16W
R4441	1-216-805-11	RES-CHIP	47	5%	1/16W
R4442	1-216-841-11	RES-CHIP	47K	5%	1/16W
R4443	1-216-837-11	RES-CHIP	22K	5%	1/16W
R4444	1-216-839-11	RES-CHIP	33K	5%	1/16W
R4448	1-216-840-11	RES-CHIP	39K	5%	1/16W
R4449	1-216-864-11	SHORT			
R4450	1-216-840-11	RES-CHIP	39K	5%	1/16W
R4451	1-216-840-11	RES-CHIP	39K	5%	1/16W
R4452	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R4453	1-216-840-11	RES-CHIP	39K	5%	1/16W
R4459	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R4460	1-216-864-11	SHORT			
R4461	1-216-817-11	RES-CHIP	470	5%	1/16W
R4462	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4463	1-216-817-11	RES-CHIP	470	5%	1/16W
R4464	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4468	1-216-864-11	SHORT			

U

REF.NO.	PART NO.	DESCRIPTION	VALUES		
U					
*	A-1395-038-A	U BOARD, COMPLETE			
		CAPACITOR			
C4001	1-126-960-11	ELECT	1µF	20%	50V
C4002	1-126-960-11	ELECT	1µF	20%	50V
C4003	1-126-960-11	ELECT	1µF	20%	50V
C4004	1-126-960-11	ELECT	1µF	20%	50V
C4005	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C4006	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4007	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C4008	1-126-960-11	ELECT	1µF	20%	50V
C4009	1-126-960-11	ELECT	1µF	20%	50V
C4010	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C4011	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4012	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C4013	1-126-960-11	ELECT	1µF	20%	50V
C4014	1-126-960-11	ELECT	1µF	20%	50V
C4015	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C4016	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C4017	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C4018	1-126-960-11	ELECT	1µF	20%	50V
C4019	1-126-960-11	ELECT	1µF	20%	50V
		CONNECTOR			
* CN4001	1-793-923-11	CONNECTOR, DIN (PLUG)		64P	
		JACK			
J4001	1-774-358-11	JACK BLOCK, PIN			
J4002	1-774-358-11	JACK BLOCK, PIN			
J4003	1-750-515-11	TERMINAL BLOCK, S	3P		
J4004	1-750-515-11	TERMINAL BLOCK, S	3P		
J4005	1-750-515-11	TERMINAL BLOCK, S	3P		
J4006	1-750-517-11	JACK BLOCK, PIN	3P		
J4007	1-750-516-21	JACK BLOCK, PIN	2P		
J4008	1-764-143-11	JACK			
J4009	1-764-143-11	JACK			
		RESISTOR			
R4001	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4002	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4003	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4004	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4005	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4006	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4007	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4008	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4009	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4010	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4011	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4012	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4013	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4014	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4015	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4016	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4017	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4018	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4019	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4020	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4021	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4022	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4023	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4024	1-216-821-11	RES-CHIP	1K	5%	1/16W
R4025	1-218-665-11	METAL CHIP	75	0.50%	1/16W
R4026	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4027	1-216-853-11	RES-CHIP	470K	5%	1/16W
R4028	1-216-809-11	RES-CHIP	100	5%	1/16W
R4029	1-216-809-11	RES-CHIP	100	5%	1/16W
		VARISTOR			
VD4001	1-803-974-21	VARISTOR, CHIP			
VD4002	1-803-974-21	VARISTOR, CHIP			
VD4003	1-803-974-21	VARISTOR, CHIP			
VD4004	1-803-974-21	VARISTOR, CHIP			
VD4005	1-803-974-21	VARISTOR, CHIP			
VD4006	1-803-974-21	VARISTOR, CHIP			
VD4007	1-803-974-21	VARISTOR, CHIP			
VD4008	1-803-974-21	VARISTOR, CHIP			
VD4009	1-803-974-21	VARISTOR, CHIP			
VD4010	1-803-974-21	VARISTOR, CHIP			
VD4011	1-803-974-21	VARISTOR, CHIP			
VD4012	1-803-974-21	VARISTOR, CHIP			
VD4013	1-803-974-21	VARISTOR, CHIP			
VD4014	1-803-974-21	VARISTOR, CHIP			
VD4015	1-803-974-21	VARISTOR, CHIP			
VD4016	1-803-974-21	VARISTOR, CHIP			
VD4017	1-803-974-21	VARISTOR, CHIP			
VD4018	1-803-974-21	VARISTOR, CHIP			
VD4019	1-803-974-21	VARISTOR, CHIP			
VD4020	1-803-974-21	VARISTOR, CHIP			
VD4021	1-803-974-21	VARISTOR, CHIP			
VD4022	1-803-974-21	VARISTOR, CHIP			
VD4023	1-803-974-21	VARISTOR, CHIP			
VD4024	1-803-974-21	VARISTOR, CHIP			

U QM

REF.NO.	PART NO.	DESCRIPTION	VALUES		
VD4025	1-803-974-21	VARISTOR, CHIP			
VD4026	1-803-974-21	VARISTOR, CHIP			
VD4027	1-803-974-21	VARISTOR, CHIP			
VD4028	1-803-974-21	VARISTOR, CHIP			
VD4029	1-803-974-21	VARISTOR, CHIP			
VD4030	1-803-974-21	VARISTOR, CHIP			
VD4031	1-803-974-21	VARISTOR, CHIP			
VD4032	1-803-974-21	VARISTOR, CHIP			
VD4033	1-803-974-21	VARISTOR, CHIP			
VD4034	1-803-974-21	VARISTOR, CHIP			

QM

The QM board is not field repairable and cannot be ordered independently. If service is required, use the following part number to order a replacement Q-box which includes the complete QM and QI board assemblies.

*	**SEE SUPPLEMENT-1**	**Q-BOX, COMPLETE**			
*	7-322-065-48	RUBBER, SILICONE RTV (KE-3490)			

CAPACITOR

C7002	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C7003	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C7004	1-117-808-91	CERAMIC CHIP	10µF	10%	10V
C7006	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7007	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C7008	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C7009	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7010	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7013	1-119-667-11	CERAMIC CHIP	22µF		10V
C7014	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7021	1-126-204-11	ELECT CHIP	47µF	20%	16V
C7022	1-128-393-11	ELECT CHIP	100µF	20%	10V
C7023	1-128-393-11	ELECT CHIP	100µF	20%	10V
C7024	1-126-197-11	ELECT CHIP	10µF	20%	50V
C7025	1-126-204-11	ELECT CHIP	47µF	20%	16V
C7026	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7027	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7028	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7030	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7031	1-126-204-11	ELECT CHIP	47µF	20%	16V
C7036	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7037	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7038	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7048	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C7049	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C7052	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C7053	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C7057	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7058	1-117-808-91	CERAMIC CHIP	10µF	10%	10V
C7059	1-117-808-91	CERAMIC CHIP	10µF	10%	10V
C7060	1-119-667-11	CERAMIC CHIP	22µF		10V
C7061	1-119-667-11	CERAMIC CHIP	22µF		10V
C7062	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7063	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7064	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7201	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7202	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7203	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7204	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7205	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7206	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7207	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7208	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7209	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7210	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7211	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7212	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7213	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7214	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7215	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7216	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7217	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7218	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7219	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7220	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7221	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7222	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7223	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7224	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7225	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C7226	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C7227	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7228	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7229	1-162-924-11	CERAMIC CHIP	56pF	5%	50V
C7230	1-162-924-11	CERAMIC CHIP	56pF	5%	50V
C7231	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C7232	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7233	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7234	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7235	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7401	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7402	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C7403	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C7404	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7405	1-164-156-11	CERAMIC CHIP	0.1µF		25V

REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
C7406	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7624	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7407	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7625	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C7409	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7626	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7410	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7627	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C7411	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7628	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7412	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7629	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7413	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7630	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7414	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7631	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7415	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7632	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7416	1-162-927-11	CERAMIC CHIP	100pF	5%	50V	C7633	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7417	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7634	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7418	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V	C7635	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7419	1-117-370-11	CERAMIC CHIP	10µF		10V	C7636	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7420	1-117-370-11	CERAMIC CHIP	10µF		10V	C7637	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7421	1-117-370-11	CERAMIC CHIP	10µF		10V	C7638	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7422	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7639	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7423	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7640	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7424	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7641	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7425	1-126-206-11	ELECT CHIP	100µF	20%	6.3V	C7642	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7431	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V	C7643	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7432	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V	C7644	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7433	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V	C7645	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7434	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V	C7646	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7435	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V	C7647	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C7436	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V	C7801	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C7437	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7802	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7601	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7803	1-126-204-11	ELECT CHIP	47µF	20%	16V
C7602	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7804	1-117-370-11	CERAMIC CHIP	10µF		10V
C7603	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7805	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7604	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7808	1-117-370-11	CERAMIC CHIP	10µF		10V
C7605	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7810	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7606	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7811	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7608	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7812	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7609	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7813	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7610	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V	C7814	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7611	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V	C7815	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7612	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7816	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7613	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7817	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7614	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7818	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7615	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7819	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7616	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7820	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7617	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7821	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7618	1-119-667-11	CERAMIC CHIP	22µF		10V	C7822	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7619	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7823	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7620	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7824	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7621	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7825	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7622	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7826	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7623	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C7827	1-164-156-11	CERAMIC CHIP	0.1µF		25V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C7828	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7829	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7830	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7831	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7832	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7833	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7834	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7835	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7836	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7837	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7838	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7839	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7840	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7841	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7846	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7847	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7848	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C7849	1-117-370-11	CERAMIC CHIP	10µF		10V
C7850	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7851	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C7852	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C7853	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7854	1-117-370-11	CERAMIC CHIP	10µF		10V
C7855	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7856	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C7857	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C7859	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7860	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7861	1-124-779-00	ELECT CHIP	10µF	20%	16V
C7863	1-117-370-11	CERAMIC CHIP	10µF		10V
C7865	1-117-370-11	CERAMIC CHIP	10µF		10V
C7866	1-124-779-00	ELECT CHIP	10µF	20%	16V
C7867	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7870	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C7871	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7873	1-124-779-00	ELECT CHIP	10µF	20%	16V
C7874	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7875	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7876	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7878	1-119-667-11	CERAMIC CHIP	22µF		10V
C7879	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7880	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7881	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C7882	1-115-467-11	CERAMIC CHIP	0.22µF	10%	10V
C7891	1-115-467-11	CERAMIC CHIP	0.22µF	10%	10V
C8601	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C8602	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C8603	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C8604	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C8605	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C8606	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C8607	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8608	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C8609	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C8610	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C8611	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C8612	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C8613	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C8615	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C8617	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8621	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8622	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8623	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8624	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8625	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8629	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C8630	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8631	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8632	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8633	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8634	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C8635	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C8636	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8637	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8638	1-119-667-11	CERAMIC CHIP	22µF		10V
C8639	1-126-204-11	ELECT CHIP	47µF	20%	16V
C8640	1-117-370-11	CERAMIC CHIP	10µF		10V
C8641	1-117-370-11	CERAMIC CHIP	10µF		10V
C8642	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8643	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8644	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8645	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8646	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8647	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8648	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8649	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8650	1-126-204-11	ELECT CHIP	47µF	20%	16V
C8651	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8652	1-126-204-11	ELECT CHIP	47µF	20%	16V
C8653	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8654	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C8655	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8656	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8657	1-164-156-11	CERAMIC CHIP	0.1µF		25V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C8706	1-127-692-11	CERAMIC CHIP	10µF	10%	6.3V
C8708	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8709	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8712	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8713	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8714	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8715	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8716	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8717	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8718	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8719	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8720	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8721	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8722	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8723	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8724	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8725	1-110-530-11	ELECT CHIP	1000µF	20%	6.3V
C8726	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8728	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C8729	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C8731	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C8733	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8734	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8737	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8738	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8739	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8740	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8741	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8742	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8745	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8746	1-119-667-11	CERAMIC CHIP	22µF		10V
C8748	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8801	1-124-779-00	ELECT CHIP	10µF	20%	16V
C8802	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8803	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8804	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8805	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8806	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8807	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8808	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8810	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8811	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8812	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8813	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8814	1-124-779-00	ELECT CHIP	10µF	20%	16V
C8815	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8816	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8817	1-124-779-00	ELECT CHIP	10µF	20%	16V
C8818	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8819	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8820	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8821	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8823	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8824	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8825	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8826	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8827	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8828	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8829	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8830	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8831	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8832	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8833	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8834	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8835	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8836	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8837	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8838	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8839	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8840	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8841	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8843	1-126-205-11	ELECT CHIP	47µF	20%	6.3V
C8844	1-126-205-11	ELECT CHIP	47µF	20%	6.3V
C8845	1-126-205-11	ELECT CHIP	47µF	20%	6.3V
C8850	1-126-204-11	ELECT CHIP	47µF	20%	16V
C8851	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8852	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8860	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8861	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8901	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C8902	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8903	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8904	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C8905	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8906	1-126-204-11	ELECT CHIP	47µF	20%	16V
C8907	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C8908	1-162-924-11	CERAMIC CHIP	56pF	5%	50V
C8909	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C8910	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C8911	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C8912	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C8913	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C8914	1-164-156-11	CERAMIC CHIP	0.1µF		25V

	REF.NO.	PART NO.	DESCRIPTION	VALUES
		CONNECTOR		
*	CN7001	1-794-660-11	PIN,CONNECTOR (WITH SHIELD)	8P
*	CN7201	1-815-176-11	PIN,CONNECTOR(WITH SHIELD)	22P
*	CN7202	1-793-150-12	CONNECTOR, MEMORY STICK	
*	CN7204	1-564-507-11	PLUG,CONNECTOR	4P
	CN7401	8-749-019-67	IC GP1FH500TZ	
*	CN7402	1-815-178-11	PIN,CONNECTOR(WITH SHIELD)	22P
*	CN8601	1-815-176-11	PIN,CONNECTOR(WITH SHIELD)	22P
*	CN8801	1-815-177-11	PIN,CONNECTOR(WITH SHIELD)	22P
		DIODE		
	D7001	8-719-048-40	DIODE MBRS140T3	
	D7002	8-719-048-40	DIODE MBRS140T3	
	D7003	8-719-046-91	DIODE MA2S111-TX	
	D7004	8-719-046-91	DIODE MA2S111-TX	
	D7005	8-719-046-91	DIODE MA2S111-TX	
	D7006	8-719-066-99	DIODE SML-210VTT86	
	D7007	8-719-060-99	DIODE SML-210MT-T86	
	D7008	8-719-988-61	DIODE 1SS355TE-17	
	D7201	8-719-066-99	DIODE SML-210VTT86	
	D7202	8-719-031-68	DIODE HVU359TRF	
	D7203	8-719-031-68	DIODE HVU359TRF	
	D7204	8-719-820-12	DIODE LN25RP	
	D7803	8-719-056-77	DIODE UDZ-TE-17-3.9B	
	D8701	8-719-988-61	DIODE 1SS355TE-17	
	D8905	8-719-046-91	DIODE MA2S111-TX	
		FERRITE BEAD		
	FB7001	1-500-241-22	FERRITE	0µH
	FB7002	1-412-911-11	FERRITE	0µH
	FB7003	1-412-911-11	FERRITE	0µH
	FB7004	1-412-911-11	FERRITE	0µH
	FB7005	1-500-241-22	FERRITE	0µH
	FB7006	1-500-241-22	FERRITE	0µH
	FB7007	1-469-835-21	FERRITE	0µH
	FB7008	1-469-835-21	FERRITE	0µH
	FB7009	1-469-835-21	FERRITE	0µH
	FB7010	1-469-835-21	FERRITE	0µH
	FB7011	1-469-869-21	FERRITE	0µH
	FB7012	1-469-869-21	FERRITE	0µH
	FB7013	1-469-869-21	FERRITE	0µH
	FB7014	1-400-089-21	FERRITE	0µH
	FB7015	1-400-089-21	FERRITE	0µH
	FB7016	1-400-089-21	FERRITE	0µH
	FB7017	1-500-241-22	FERRITE	0µH
	FB7201	1-414-231-22	FERRITE	0µH
	FB7202	1-414-229-11	FERRITE	0µH
	FB7601	1-414-229-11	FERRITE	0µH
	FB7602	1-414-229-11	FERRITE	0µH
	FB7603	1-414-229-11	FERRITE	0µH
	FB7801	1-414-229-11	FERRITE	0µH
	FB7802	1-414-229-11	FERRITE	0µH
	FB8801	1-469-835-21	FERRITE	0µH
		FILTER		
	FL7801	1-234-557-21	FILTER, LOW PASS	
	FL7802	1-234-557-21	FILTER, LOW PASS	
	FL7803	1-234-558-21	FILTER, LOW PASS	
	FL8601	1-234-559-21	FILTER, LOW PASS	
	FL8602	1-234-559-21	FILTER, LOW PASS	
	FL8603	1-234-560-21	FILTER, LOW PASS	
	FL8801	1-781-923-21	FILTER, LOW PASS (SMD)	
		IC		
	IC7002	8-759-597-57	IC LTC1628CG#TR	
	IC7201	6-700-201-01	IC MBM29LV160BE70TN	
	IC7202	6-700-201-01	IC MBM29LV160BE70TN	
	IC7203	8-759-679-88	IC GM71VS65163CLT-5	
	IC7204	8-759-679-88	IC GM71VS65163CLT-5	
	IC7205	8-759-712-93	IC ST20TP4CX60S	
	IC7206	8-759-682-41	IC M24C32-WMN6T(A)	
	IC7207	6-700-226-01	IC TC74LVX04FT(EL)	
	IC7208	6-700-202-01	IC MAX811TEUS-T	
	IC7209	8-759-538-95	IC TC74LVX08FT(EL)	
	IC7401	8-759-698-88	IC STI4600BCV-2.0	
	IC7402	6-700-203-01	IC CS4339KSR	
	IC7403	6-700-203-01	IC CS4339KSR	
	IC7404	6-700-203-01	IC CS4339KSR	
	IC7405	8-759-485-79	IC TC7SET08FU(TE85L)	
	IC7601	8-759-675-89	IC TC59S6432CFT-80(YB)	
	IC7602	8-759-675-89	IC TC59S6432CFT-80(YB)	
	IC7603	6-700-087-01	IC STI7000AQA	
	IC7604	6-700-273-01	IC EPM3128ATC100-5-V1.0	
	IC7801	8-759-669-78	IC TLC2933IPWR-12	
	IC7803	6-700-134-01	IC NT56V1616A0T-7-T&R	
	IC7804	8-752-409-78	IC CXD2095AQ	
	IC7805	8-759-669-75	IC TLC2932IPWR	
	IC7806	8-759-447-90	IC TLC5733AIPM	
	IC7807	6-700-274-01	IC LMV358IPWR	
	IC8601	8-752-093-03	IC CXA3506R	
	IC8703	8-759-672-57	IC CXD9509AQ	
	IC8704	8-759-675-89	IC TC59S6432CFT-80(YB)	
	IC8706	8-749-015-18	IC PQ07VZ012ZP	
	IC8707	6-700-225-01	IC TC74VCX157FT(EL)	
	IC8708	8-759-531-92	IC TC7WH04FU(TE12R)	
	IC8709	8-749-015-18	IC PQ07VZ012ZP	

REF.NO.	PART NO.	DESCRIPTION	VALUES
IC8801	6-700-321-01	IC YGV619	
IC8803	6-700-134-01	IC NT56V1616A0T-7-T&R	
IC8804	6-700-134-01	IC NT56V1616A0T-7-T&R	
IC8805	6-700-248-01	IC THS8134BCPHP	
IC8807	6-700-226-01	IC TC74LVX04FT(EL)	
IC8901	8-759-682-41	IC M24C32-WMN6T(A)	
IC8902	6-800-514-01	IC MB94918RpF-G-141-BND	
IC8903	6-700-205-01	IC TC74LVX157FT(EL)	
	COIL		
L7002	1-469-848-21	INDUCTOR	10µH
L7003	1-469-848-21	INDUCTOR	10µH
L7004	1-416-606-11	INDUCTOR	47µH
L7005	1-414-755-11	INDUCTOR	22µH
L7006	1-414-755-11	INDUCTOR	22µH
L7007	1-414-755-11	INDUCTOR	22µH
L7008	1-414-755-11	INDUCTOR	22µH
L7009	1-414-755-11	INDUCTOR	22µH
L7201	1-469-555-21	INDUCTOR	10µH
L7401	1-469-555-21	INDUCTOR	10µH
L7403	1-469-555-21	INDUCTOR	10µH
L7601	1-469-555-21	INDUCTOR	10µH
L7801	1-469-561-21	INDUCTOR	100µH
L7802	1-469-561-21	INDUCTOR	100µH
L7803	1-469-561-21	INDUCTOR	100µH
L7804	1-469-561-21	INDUCTOR	100µH
L7805	1-469-555-21	INDUCTOR	10µH
L7806	1-469-555-21	INDUCTOR	10µH
L8601	1-469-555-21	INDUCTOR	10µH
L8602	1-469-553-21	INDUCTOR	4.7µH
L8603	1-469-555-21	INDUCTOR	10µH
L8801	1-469-555-21	INDUCTOR	10µH
L8802	1-469-555-21	INDUCTOR	10µH
L8803	1-469-555-21	INDUCTOR	10µH
L8805	1-469-555-21	INDUCTOR	10µH
L8906	1-469-553-21	INDUCTOR	4.7µH
	TRANSISTOR		
Q7001	8-729-056-25	TRANSISTOR SI4922DY	
Q7002	8-729-056-25	TRANSISTOR SI4922DY	
Q7005	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q7006	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q7201	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q7202	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q7203	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q7802	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q7803	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q7804	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	

REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q7805	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
Q7806	8-729-122-63	TRANSISTOR 2SA1226-T1E3E4			
Q7807	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q7808	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q7809	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q7810	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q7811	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q7812	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
Q7813	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q8601	8-729-102-07	TRANSISTOR 2SC2223-T1F13F14			
Q8602	8-729-102-07	TRANSISTOR 2SC2223-T1F13F14			
Q8603	8-729-102-07	TRANSISTOR 2SC2223-T1F13F14			
Q8604	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
Q8605	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
Q8606	8-729-122-63	TRANSISTOR 2SA1226-T1E3E4			
Q8607	8-729-122-63	TRANSISTOR 2SA1226-T1E3E4			
Q8608	8-729-122-63	TRANSISTOR 2SA1226-T1E3E4			
Q8609	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
Q8701	8-719-012-57	TRANSISTOR 2SK1399-T1B			
Q8702	8-719-012-57	TRANSISTOR 2SK1399-T1B			
Q8804	8-729-102-07	TRANSISTOR 2SC2223-T1F13F14			
Q8805	8-729-102-07	TRANSISTOR 2SC2223-T1F13F14			
Q8806	8-729-102-07	TRANSISTOR 2SC2223-T1F13F14			
Q8901	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q8902	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q8903	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
Q8904	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO			
	RESISTOR				
R7003	1-220-994-21	RES-CHIP	0.06	1%	1W
R7004	1-220-851-21	RES-CHIP	0.015	1%	1W
R7007	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R7008	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R7009	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R7010	1-218-736-11	METAL CHIP	68K	0.50%	1/16W
R7011	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7012	1-216-864-11	SHORT			
R7013	1-216-809-11	RES-CHIP	100	5%	1/16W
R7014	1-216-809-11	RES-CHIP	100	5%	1/16W
R7016	1-216-809-11	RES-CHIP	100	5%	1/16W
R7017	1-216-809-11	RES-CHIP	100	5%	1/16W
R7019	1-216-817-11	RES-CHIP	470	5%	1/16W
R7020	1-216-841-11	RES-CHIP	47K	5%	1/16W
R7021	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7022	1-216-817-11	RES-CHIP	470	5%	1/16W
R7023	1-216-817-11	RES-CHIP	470	5%	1/16W
R7024	1-216-864-11	SHORT			
R7025	1-216-833-11	RES-CHIP	10K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R7026	1-216-857-11	RES-CHIP	1M	5%	1/16W
R7028	1-216-857-11	RES-CHIP	1M	5%	1/16W
R7029	1-216-835-11	RES-CHIP	15K	5%	1/16W
R7030	1-216-835-11	RES-CHIP	15K	5%	1/16W
R7031	1-216-864-11	SHORT			
R7033	1-216-797-11	RES-CHIP	10	5%	1/16W
R7036	1-216-864-11	SHORT			
R7039	1-216-864-11	SHORT			
R7046	1-218-736-11	METAL CHIP	68K	0.50%	1/16W
R7201	1-216-801-11	RES-CHIP	22	5%	1/16W
R7202	1-216-801-11	RES-CHIP	22	5%	1/16W
R7205	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7206	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7207	1-216-809-11	RES-CHIP	100	5%	1/16W
R7208	1-216-805-11	RES-CHIP	47	5%	1/16W
R7210	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7211	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7212	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7213	1-216-805-11	RES-CHIP	47	5%	1/16W
R7214	1-216-805-11	RES-CHIP	47	5%	1/16W
R7215	1-216-805-11	RES-CHIP	47	5%	1/16W
R7216	1-216-803-11	RES-CHIP	33	5%	1/16W
R7219	1-216-809-11	RES-CHIP	100	5%	1/16W
R7220	1-216-809-11	RES-CHIP	100	5%	1/16W
R7221	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7222	1-216-809-11	RES-CHIP	100	5%	1/16W
R7223	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7224	1-216-864-11	SHORT			
R7235	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7236	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7238	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7239	1-216-851-11	RES-CHIP	330K	5%	1/16W
R7243	1-216-845-11	RES-CHIP	100K	5%	1/16W
R7244	1-216-845-11	RES-CHIP	100K	5%	1/16W
R7245	1-216-845-11	RES-CHIP	100K	5%	1/16W
R7246	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R7247	1-216-809-11	RES-CHIP	100	5%	1/16W
R7248	1-216-857-11	RES-CHIP	1M	5%	1/16W
R7249	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7250	1-216-809-11	RES-CHIP	100	5%	1/16W
R7251	1-216-864-11	SHORT			
R7252	1-216-804-11	RES-CHIP	39	5%	1/16W
R7253	1-216-804-11	RES-CHIP	39	5%	1/16W
R7254	1-216-804-11	RES-CHIP	39	5%	1/16W
R7256	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7257	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7258	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7259	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7260	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7261	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7262	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7263	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7264	1-216-864-11	SHORT			
R7265	1-216-841-11	RES-CHIP	47K	5%	1/16W
R7266	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7267	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7268	1-216-805-11	RES-CHIP	47	5%	1/16W
R7270	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7271	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7273	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7274	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7275	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7276	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7277	1-216-864-11	SHORT			
R7281	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7282	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7283	1-216-806-11	RES-CHIP	56	5%	1/16W
R7284	1-216-806-11	RES-CHIP	56	5%	1/16W
R7285	1-216-864-11	SHORT			
R7286	1-216-864-11	SHORT			
R7288	1-216-793-11	RES-CHIP	4.7	5%	1/16W
R7289	1-216-793-11	RES-CHIP	4.7	5%	1/16W
R7401	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R7403	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7405	1-216-864-11	SHORT			
R7408	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7409	1-216-805-11	RES-CHIP	47	5%	1/16W
R7410	1-216-805-11	RES-CHIP	47	5%	1/16W
R7411	1-216-805-11	RES-CHIP	47	5%	1/16W
R7412	1-216-809-11	RES-CHIP	100	5%	1/16W
R7413	1-216-805-11	RES-CHIP	47	5%	1/16W
R7414	1-216-805-11	RES-CHIP	47	5%	1/16W
R7415	1-216-805-11	RES-CHIP	47	5%	1/16W
R7417	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7418	1-216-850-11	RES-CHIP	270K	5%	1/16W
R7419	1-216-850-11	RES-CHIP	270K	5%	1/16W
R7420	1-216-850-11	RES-CHIP	270K	5%	1/16W
R7421	1-216-850-11	RES-CHIP	270K	5%	1/16W
R7422	1-216-850-11	RES-CHIP	270K	5%	1/16W
R7423	1-216-850-11	RES-CHIP	270K	5%	1/16W
R7424	1-216-797-11	RES-CHIP	10	5%	1/16W
R7430	1-216-818-11	RES-CHIP	560	5%	1/16W
R7431	1-216-818-11	RES-CHIP	560	5%	1/16W
R7432	1-216-818-11	RES-CHIP	560	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R7433	1-216-818-11	RES-CHIP	560	5%	1/16W
R7434	1-216-818-11	RES-CHIP	560	5%	1/16W
R7435	1-216-818-11	RES-CHIP	560	5%	1/16W
R7436	1-216-809-11	RES-CHIP	100	5%	1/16W
R7437	1-216-809-11	RES-CHIP	100	5%	1/16W
R7438	1-216-809-11	RES-CHIP	100	5%	1/16W
R7439	1-216-809-11	RES-CHIP	100	5%	1/16W
R7440	1-216-809-11	RES-CHIP	100	5%	1/16W
R7441	1-216-809-11	RES-CHIP	100	5%	1/16W
R7442	1-216-809-11	RES-CHIP	100	5%	1/16W
R7443	1-216-809-11	RES-CHIP	100	5%	1/16W
R7444	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7445	1-216-809-11	RES-CHIP	100	5%	1/16W
R7447	1-216-864-11	SHORT			
R7601	1-216-804-11	RES-CHIP	39	5%	1/16W
R7602	1-216-804-11	RES-CHIP	39	5%	1/16W
R7603	1-216-805-11	RES-CHIP	47	5%	1/16W
R7604	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7605	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7606	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7607	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7608	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7610	1-216-810-11	RES-CHIP	120	5%	1/16W
R7611	1-216-811-11	RES-CHIP	150	5%	1/16W
R7612	1-216-797-11	RES-CHIP	10	5%	1/16W
R7613	1-216-864-11	SHORT			
R7614	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7617	1-216-806-11	RES-CHIP	56	5%	1/16W
R7619	1-216-806-11	RES-CHIP	56	5%	1/16W
R7622	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7627	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7630	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7638	1-216-806-11	RES-CHIP	56	5%	1/16W
R7639	1-216-806-11	RES-CHIP	56	5%	1/16W
R7640	1-216-806-11	RES-CHIP	56	5%	1/16W
R7641	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7642	1-216-806-11	RES-CHIP	56	5%	1/16W
R7643	1-216-806-11	RES-CHIP	56	5%	1/16W
R7650	1-216-801-11	RES-CHIP	22	5%	1/16W
R7651	1-216-806-11	RES-CHIP	56	5%	1/16W
R7652	1-216-809-11	RES-CHIP	100	5%	1/16W
R7801	1-216-853-11	RES-CHIP	470K	5%	1/16W
R7802	1-216-864-11	SHORT			
R7803	1-216-837-11	RES-CHIP	22K	5%	1/16W
R7804	1-216-809-11	RES-CHIP	100	5%	1/16W
R7805	1-216-815-11	RES-CHIP	330	5%	1/16W
R7806	1-216-813-11	RES-CHIP	220	5%	1/16W
R7807	1-216-809-11	RES-CHIP	100	5%	1/16W
R7808	1-216-813-11	RES-CHIP	220	5%	1/16W
R7809	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7811	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R7812	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7813	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7814	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7817	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7818	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7819	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7820	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R7822	1-218-705-11	METAL CHIP	3.6K	0.50%	1/16W
R7823	1-216-841-11	RES-CHIP	47K	5%	1/16W
R7826	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7828	1-216-853-11	RES-CHIP	470K	5%	1/16W
R7829	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7831	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7833	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7837	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7840	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7842	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7850	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7857	1-216-801-11	RES-CHIP	22	5%	1/16W
R7858	1-216-801-11	RES-CHIP	22	5%	1/16W
R7859	1-216-833-11	RES-CHIP	10K	5%	1/16W
R7862	1-218-687-11	METAL CHIP	620	0.50%	1/16W
R7863	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R7864	1-216-814-11	RES-CHIP	270	5%	1/16W
R7865	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R7866	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R7867	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R7868	1-216-803-11	RES-CHIP	33	5%	1/16W
R7869	1-216-803-11	RES-CHIP	33	5%	1/16W
R7871	1-216-809-11	RES-CHIP	100	5%	1/16W
R7872	1-216-809-11	RES-CHIP	100	5%	1/16W
R7873	1-216-803-11	RES-CHIP	33	5%	1/16W
R7874	1-216-803-11	RES-CHIP	33	5%	1/16W
R7876	1-216-809-11	RES-CHIP	100	5%	1/16W
R7877	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7878	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7879	1-218-695-11	METAL CHIP	1.3K	0.50%	1/16W
R7880	1-218-695-11	METAL CHIP	1.3K	0.50%	1/16W
R7881	1-216-820-11	RES-CHIP	820	5%	1/16W
R7884	1-216-809-11	RES-CHIP	100	5%	1/16W
R7885	1-216-821-11	RES-CHIP	1K	5%	1/16W
R7886	1-218-694-11	METAL CHIP	1.2K	0.50%	1/16W
R7887	1-216-855-11	RES-CHIP	680K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R7888	1-218-709-11	METAL CHIP	5.1K	0.50%	1/16W
R7889	1-216-855-11	RES-CHIP	680K	5%	1/16W
R7890	1-216-809-11	RES-CHIP	100	5%	1/16W
R7892	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R7893	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R7894	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R7896	1-216-841-11	RES-CHIP	47K	5%	1/16W
R7897	1-216-815-11	RES-CHIP	330	5%	1/16W
R7899	1-216-815-11	RES-CHIP	330	5%	1/16W
R7904	1-216-817-11	RES-CHIP	470	5%	1/16W
R7905	1-216-817-11	RES-CHIP	470	5%	1/16W
R7906	1-216-817-11	RES-CHIP	470	5%	1/16W
R7907	1-216-809-11	RES-CHIP	100	5%	1/16W
R7908	1-216-809-11	RES-CHIP	100	5%	1/16W
R7909	1-216-809-11	RES-CHIP	100	5%	1/16W
R7910	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R7911	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R7912	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R7913	1-216-818-11	RES-CHIP	560	5%	1/16W
R7914	1-216-818-11	RES-CHIP	560	5%	1/16W
R7915	1-216-818-11	RES-CHIP	560	5%	1/16W
R7916	1-216-817-11	RES-CHIP	470	5%	1/16W
R7917	1-216-817-11	RES-CHIP	470	5%	1/16W
R7918	1-216-817-11	RES-CHIP	470	5%	1/16W
R7919	1-216-809-11	RES-CHIP	100	5%	1/16W
R7920	1-216-809-11	RES-CHIP	100	5%	1/16W
R7921	1-216-809-11	RES-CHIP	100	5%	1/16W
R8604	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8605	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8606	1-216-819-11	RES-CHIP	680	5%	1/16W
R8607	1-216-819-11	RES-CHIP	680	5%	1/16W
R8608	1-216-819-11	RES-CHIP	680	5%	1/16W
R8609	1-216-809-11	RES-CHIP	100	5%	1/16W
R8610	1-216-809-11	RES-CHIP	100	5%	1/16W
R8611	1-216-809-11	RES-CHIP	100	5%	1/16W
R8612	1-216-820-11	RES-CHIP	820	5%	1/16W
R8613	1-216-820-11	RES-CHIP	820	5%	1/16W
R8614	1-216-820-11	RES-CHIP	820	5%	1/16W
R8615	1-216-809-11	RES-CHIP	100	5%	1/16W
R8616	1-216-809-11	RES-CHIP	100	5%	1/16W
R8617	1-216-809-11	RES-CHIP	100	5%	1/16W
R8618	1-218-679-11	METAL CHIP	300	0.50%	1/16W
R8619	1-218-679-11	METAL CHIP	300	0.50%	1/16W
R8620	1-218-675-11	METAL CHIP	200	0.50%	1/16W
R8621	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8622	1-218-679-11	METAL CHIP	300	0.50%	1/16W
R8623	1-218-679-11	METAL CHIP	300	0.50%	1/16W
R8624	1-218-675-11	METAL CHIP	200	0.50%	1/16W
R8625	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8626	1-216-809-11	RES-CHIP	100	5%	1/16W
R8627	1-216-809-11	RES-CHIP	100	5%	1/16W
R8628	1-216-809-11	RES-CHIP	100	5%	1/16W
R8629	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R8630	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R8631	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R8632	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8636	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8637	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8638	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8639	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R8641	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8642	1-218-703-11	METAL CHIP	3K	0.50%	1/16W
R8643	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8644	1-216-845-11	RES-CHIP	100K	5%	1/16W
R8645	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8646	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8647	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8648	1-216-830-11	RES-CHIP	5.6K	5%	1/16W
R8649	1-216-809-11	RES-CHIP	100	5%	1/16W
R8650	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8651	1-216-801-11	RES-CHIP	22	5%	1/16W
R8652	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8653	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8656	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R8657	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R8658	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R8703	1-216-809-11	RES-CHIP	100	5%	1/16W
R8709	1-216-803-11	RES-CHIP	33	5%	1/16W
R8711	1-216-801-11	RES-CHIP	22	5%	1/16W
R8712	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8713	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8714	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8715	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8716	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8717	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8718	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8719	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8720	1-216-801-11	RES-CHIP	22	5%	1/16W
R8721	1-216-864-11	SHORT			
R8722	1-216-864-11	SHORT			
R8724	1-216-864-11	SHORT			
R8725	1-216-814-11	RES-CHIP	270	5%	1/16W
R8726	1-216-864-11	SHORT			
R8727	1-216-806-11	RES-CHIP	56	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R8728	1-216-801-11	RES-CHIP	22	5%	1/16W
R8733	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8734	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8736	1-216-797-11	RES-CHIP	10	5%	1/16W
R8737	1-216-797-11	RES-CHIP	10	5%	1/16W
R8744	1-216-801-11	RES-CHIP	22	5%	1/16W
R8747	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R8748	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R8750	1-216-801-11	RES-CHIP	22	5%	1/16W
R8751	1-216-801-11	RES-CHIP	22	5%	1/16W
R8752	1-216-864-11	SHORT			
R8806	1-216-817-11	RES-CHIP	470	5%	1/16W
R8807	1-216-805-11	RES-CHIP	47	5%	1/16W
R8808	1-216-805-11	RES-CHIP	47	5%	1/16W
R8809	1-216-805-11	RES-CHIP	47	5%	1/16W
R8810	1-216-801-11	RES-CHIP	22	5%	1/16W
R8811	1-216-805-11	RES-CHIP	47	5%	1/16W
R8813	1-216-801-11	RES-CHIP	22	5%	1/16W
R8817	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R8818	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R8819	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
R8820	1-218-664-11	METAL CHIP	68	0.50%	1/16W
R8821	1-218-664-11	METAL CHIP	68	0.50%	1/16W
R8822	1-218-664-11	METAL CHIP	68	0.50%	1/16W
R8827	1-216-864-11	SHORT			
R8828	1-216-864-11	SHORT			
R8829	1-216-864-11	SHORT			
R8835	1-216-809-11	RES-CHIP	100	5%	1/16W
R8836	1-216-809-11	RES-CHIP	100	5%	1/16W
R8837	1-216-809-11	RES-CHIP	100	5%	1/16W
R8839	1-216-817-11	RES-CHIP	470	5%	1/16W
R8840	1-216-817-11	RES-CHIP	470	5%	1/16W
R8841	1-216-817-11	RES-CHIP	470	5%	1/16W
R8843	1-216-801-11	RES-CHIP	22	5%	1/16W
R8844	1-216-801-11	RES-CHIP	22	5%	1/16W
R8845	1-216-801-11	RES-CHIP	22	5%	1/16W
R8849	1-216-809-11	RES-CHIP	100	5%	1/16W
R8850	1-216-809-11	RES-CHIP	100	5%	1/16W
R8851	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8852	1-216-821-11	RES-CHIP	1K	5%	1/16W
R8854	1-216-809-11	RES-CHIP	100	5%	1/16W
R8857	1-216-805-11	RES-CHIP	47	5%	1/16W
R8860	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R8870	1-216-801-11	RES-CHIP	22	5%	1/16W
R8871	1-216-805-11	RES-CHIP	47	5%	1/16W
R8901	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8902	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8903	1-216-864-11	SHORT			
R8904	1-216-864-11	SHORT			
R8905	1-216-841-11	RES-CHIP	47K	5%	1/16W
R8906	1-216-805-11	RES-CHIP	47	5%	1/16W
R8907	1-216-805-11	RES-CHIP	47	5%	1/16W
R8909	1-216-841-11	RES-CHIP	47K	5%	1/16W
R8911	1-216-797-11	RES-CHIP	10	5%	1/16W
R8912	1-216-797-11	RES-CHIP	10	5%	1/16W
R8914	1-216-809-11	RES-CHIP	100	5%	1/16W
R8915	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R8916	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R8917	1-216-845-11	RES-CHIP	100K	5%	1/16W
R8918	1-216-845-11	RES-CHIP	100K	5%	1/16W
R8919	1-216-864-11	SHORT			
R8920	1-216-864-11	SHORT			
R8921	1-216-809-11	RES-CHIP	100	5%	1/16W
R8924	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8925	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8926	1-216-809-11	RES-CHIP	100	5%	1/16W
R8928	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8929	1-216-809-11	RES-CHIP	100	5%	1/16W
R8930	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R8931	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R8932	1-216-837-11	RES-CHIP	22K	5%	1/16W
R8933	1-216-837-11	RES-CHIP	22K	5%	1/16W
R8934	1-216-824-11	RES-CHIP	1.8K	5%	1/16W
R8935	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R8937	1-216-833-11	RES-CHIP	10K	5%	1/16W
R8938	1-216-829-11	RES-CHIP	4.7K	5%	1/16W

RESISTOR BRIDGE

RB7004	1-233-575-11	RES, CHIP NETWORK	22	
RB7005	1-233-575-11	RES, CHIP NETWORK	22	
RB7006	1-233-575-11	RES, CHIP NETWORK	22	
RB7007	1-233-575-11	RES, CHIP NETWORK	22	
RB7008	1-233-575-11	RES, CHIP NETWORK	22	
RB7009	1-233-575-11	RES, CHIP NETWORK	22	
RB7010	1-233-575-11	RES, CHIP NETWORK	22	
RB7011	1-233-575-11	RES, CHIP NETWORK	22	
RB7012	1-236-908-11	RES, CHIP NETWORK	10K	-3216
RB7013	1-236-908-11	RES, CHIP NETWORK	10K	-3216
RB7014	1-236-908-11	RES, CHIP NETWORK	10K	-3216
RB7201	1-233-575-11	RES, CHIP NETWORK	22	
RB7202	1-233-575-11	RES, CHIP NETWORK	22	
RB7203	1-233-575-11	RES, CHIP NETWORK	22	
RB7204	1-233-575-11	RES, CHIP NETWORK	22	
RB7205	1-233-575-11	RES, CHIP NETWORK	22	
RB7206	1-233-575-11	RES, CHIP NETWORK	22	

REF.NO.	PART NO.	DESCRIPTION	VALUES	
RB7207	1-233-575-11	RES, CHIP NETWORK	22	
RB7208	1-233-575-11	RES, CHIP NETWORK	22	
RB7214	1-233-575-11	RES, CHIP NETWORK	22	
RB7215	1-233-575-11	RES, CHIP NETWORK	22	
RB7216	1-233-575-11	RES, CHIP NETWORK	22	
RB7217	1-233-575-11	RES, CHIP NETWORK	22	
RB7221	1-233-575-11	RES, CHIP NETWORK	22	
RB7222	1-233-575-11	RES, CHIP NETWORK	22	
RB7223	1-233-575-11	RES, CHIP NETWORK	22	
RB7224	1-236-908-11	RES, CHIP NETWORK	10K	-3216
RB7601	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7602	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7603	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7604	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7605	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7606	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7607	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7608	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7609	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7610	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7611	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7612	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7613	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7614	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7615	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7616	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7617	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7618	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7619	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7620	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7624	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7625	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7626	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7627	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7628	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7629	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7630	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7632	1-233-575-11	RES, CHIP NETWORK	22	
RB7634	1-233-575-11	RES, CHIP NETWORK	22	
RB7635	1-233-575-11	RES, CHIP NETWORK	22	
RB7636	1-233-575-11	RES, CHIP NETWORK	22	
RB7637	1-233-575-11	RES, CHIP NETWORK	22	
RB7804	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7805	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7806	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7807	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7808	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7809	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7810	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7811	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7813	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB7814	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8601	1-233-575-11	RES, CHIP NETWORK	22	
RB8602	1-233-575-11	RES, CHIP NETWORK	22	
RB8603	1-233-575-11	RES, CHIP NETWORK	22	
RB8604	1-233-575-11	RES, CHIP NETWORK	22	
RB8605	1-233-575-11	RES, CHIP NETWORK	22	
RB8606	1-233-575-11	RES, CHIP NETWORK	22	
RB8701	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8702	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8703	1-233-575-11	RES, CHIP NETWORK	22	
RB8704	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8705	1-233-575-11	RES, CHIP NETWORK	22	
RB8706	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8707	1-233-575-11	RES, CHIP NETWORK	22	
RB8708	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8709	1-233-575-11	RES, CHIP NETWORK	22	
RB8710	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8711	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8712	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8713	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8714	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8715	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8716	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8717	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8805	1-233-575-11	RES, CHIP NETWORK	22	
RB8806	1-233-575-11	RES, CHIP NETWORK	22	
RB8807	1-233-575-11	RES, CHIP NETWORK	22	
RB8808	1-233-575-11	RES, CHIP NETWORK	22	
RB8809	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8810	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8811	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8812	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8813	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8814	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8815	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB8816	1-239-409-11	RES, CHIP NETWORK	47	-3216

TUNER

TU7001	8-598-583-00	UNIT, DIGITAL TUNER	BTD-DA403

QM QI

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	CRYSTAL				
X7201	1-579-886-21	VIBRATOR, CRYSTAL			
X7202	1-767-262-31	VIBRATOR, CRYSTAL			
X8701	1-781-887-21	VIBRATOR, CRYSTAL			
X8901	1-781-945-21	VIBRATOR, CERAMIC			

QI

The QM board is not field repairable and cannot be ordered independently. If service is required, use the following part number to order a replacement Q-box which includes the complete QM and QI board assemblies.

*	**SEE SUPPLEMENT-1**	**Q-BOX, COMPLETE**			
	CAPACITOR				
C9201	1-124-779-00	ELECT CHIP	10µF	20%	16V
C9202	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9203	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9204	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9205	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9206	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9207	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9208	1-126-204-11	ELECT CHIP	47µF	20%	16V
C9209	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9210	1-126-395-11	ELECT CHIP	22µF	20%	16V
C9211	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9212	1-126-395-11	ELECT CHIP	22µF	20%	16V
C9213	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9214	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9215	1-126-395-11	ELECT CHIP	22µF	20%	16V
C9216	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9219	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C9220	1-162-926-11	CERAMIC CHIP	82pF	5%	50V
C9221	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C9222	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9223	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9224	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C9225	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9226	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9227	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9228	1-164-388-91	CERAMIC CHIP	270pF	5%	50V
C9229	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C9230	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C9231	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9232	1-164-388-91	CERAMIC CHIP	270pF	5%	50V
C9233	1-124-779-00	ELECT CHIP	10µF	20%	16V
C9234	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9235	1-164-156-11	CERAMIC CHIP	0.1µF		25V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C9236	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9237	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9238	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9239	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9240	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C9241	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9242	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9243	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9244	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9245	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9246	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9247	1-124-779-00	ELECT CHIP	10µF	20%	16V
C9248	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C9249	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9250	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C9251	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C9252	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9253	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C9254	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9256	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9257	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9258	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9259	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C9260	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9261	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9262	1-124-779-00	ELECT CHIP	10µF	20%	16V
C9263	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9264	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9265	1-164-188-11	CERAMIC CHIP	470pF	2%	50V
C9267	1-164-188-11	CERAMIC CHIP	470pF	2%	50V
C9268	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9270	1-124-779-00	ELECT CHIP	10µF	20%	16V
C9271	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9273	1-115-156-11	CERAMIC CHIP	1µF		10V
C9276	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9277	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9278	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9279	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9281	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9282	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9283	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9284	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9285	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9286	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C9287	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C9288	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C9289	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C9290	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9292	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9295	1-124-779-00	ELECT CHIP	10µF	20%	16V
C9296	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9297	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9298	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9299	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9301	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9302	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9303	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9304	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9305	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9306	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9307	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9308	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9309	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9310	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9311	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9312	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9313	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9314	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9315	1-164-156-11	CERAMIC CHIP	0.1µF		25V

CONNECTOR

*	CN9203	1-815-164-11	CONNECTOR, I LINK (FLANGE TYPE)	
*	CN9204	1-815-164-11	CONNECTOR, I LINK (FLANGE TYPE)	
*	CN9206	1-564-507-11	PLUG,CONNECTOR	4P

DIODE

D9201	8-719-060-99	DIODE SML-210MT-T86	
D9202	8-719-060-99	DIODE SML-210MT-T86	
D9203	8-719-060-99	DIODE SML-210MT-T86	
D9204	8-719-060-99	DIODE SML-210MT-T86	
D9205	8-719-060-99	DIODE SML-210MT-T86	
D9206	8-719-060-99	DIODE SML-210MT-T86	
D9207	8-719-060-99	DIODE SML-210MT-T86	
D9208	8-719-820-05	DIODE MA152WA-TX	
D9209	8-719-404-50	DIODE MA111-TX	
D9210	8-719-060-99	DIODE SML-210MT-T86	

FERRITE BEAD

FB9202	1-414-760-21	FERRITE	0µH
FB9204	1-414-760-21	FERRITE	0µH
FB9211	1-414-760-21	FERRITE	0µH

FILTER

FL9201	1-400-087-21	FILTER, EMI REMOVAL	(SMD)
FL9202	1-400-087-21	FILTER, EMI REMOVAL	(SMD)
FL9203	1-781-667-21	INDUCTOR	0µH
FL9204	1-781-667-21	INDUCTOR	0µH
FL9205	1-781-667-21	INDUCTOR	0µH
FL9206	1-781-667-21	INDUCTOR	0µH

IC

IC9201	8-759-475-53	IC TC74LCX541FT(EL)	
IC9202	8-752-400-16	IC CXD3203R	
IC9203	8-752-396-41	IC CXD1945R	
IC9204	8-759-669-46	IC LM358PWR-12	
IC9205	8-759-680-30	IC UPD82442GN-001-LMU	
IC9206	8-759-589-36	IC MT48LC4M16A2TG-75	
IC9207	8-759-530-29	IC TC4069UBFT(EL,N)	
IC9208	8-759-475-43	IC TC74LCX125FT(EL)	
IC9209	6-700-335-01	IC UPD30200GD-80-LBB	
IC9210	8-759-689-92	IC MBM29LV160BE-90TN	
IC9211	8-759-689-92	IC MBM29LV160BE-90TN	
IC9212	6-800-499-01	IC MBM29LV160BE-90TN-V1.0	
IC9213	8-759-491-46	IC TC74VHC04FT(EL)	
IC9214	8-759-491-46	IC TC74VHC04FT(EL)	
IC9215	8-759-475-39	IC TC74LCX74FT(EL)	

COIL

L9202	1-414-078-11	INDUCTOR	10µH
L9204	1-543-949-22	FERRITE	0µH

TRANSISTOR

Q9201	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO

RESISTOR

R9201	1-216-864-11	SHORT			
R9203	1-216-864-11	SHORT			
R9204	1-216-864-11	SHORT			
R9205	1-216-864-11	SHORT			
R9206	1-216-864-11	SHORT			
R9207	1-216-864-11	SHORT			
R9208	1-216-864-11	SHORT			
R9209	1-216-864-11	SHORT			
R9210	1-216-864-11	SHORT			
R9211	1-216-864-11	SHORT			
R9213	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9214	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9215	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9216	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9217	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9218	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9219	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9220	1-216-821-11	RES-CHIP	1K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R9222	1-216-864-11	SHORT			
R9223	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9226	1-216-864-11	SHORT			
R9228	1-216-864-11	SHORT			
R9229	1-216-864-11	SHORT			
R9231	1-216-864-11	SHORT			
R9232	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9233	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9234	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9235	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9236	1-216-864-11	SHORT			
R9237	1-216-864-11	SHORT			
R9247	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9250	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9251	1-216-864-11	SHORT			
R9252	1-216-813-11	RES-CHIP	220	5%	1/16W
R9253	1-216-824-11	RES-CHIP	1.8K	5%	1/16W
R9254	1-216-822-11	RES-CHIP	1.2K	5%	1/16W
R9256	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9257	1-216-836-11	RES-CHIP	18K	5%	1/16W
R9258	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9259	1-216-815-11	RES-CHIP	330	5%	1/16W
R9260	1-216-817-11	RES-CHIP	470	5%	1/16W
R9261	1-216-812-11	RES-CHIP	180	5%	1/16W
R9262	1-216-811-11	RES-CHIP	150	5%	1/16W
R9263	1-216-806-11	RES-CHIP	56	5%	1/16W
R9264	1-216-810-11	RES-CHIP	120	5%	1/16W
R9265	1-216-806-11	RES-CHIP	56	5%	1/16W
R9266	1-216-806-11	RES-CHIP	56	5%	1/16W
R9267	1-216-810-11	RES-CHIP	120	5%	1/16W
R9268	1-216-841-11	RES-CHIP	47K	5%	1/16W
R9269	1-218-272-11	RES-CHIP	5.1K	5%	1/16W
R9270	1-216-806-11	RES-CHIP	56	5%	1/16W
R9271	1-216-841-11	RES-CHIP	47K	5%	1/16W
R9272	1-216-806-11	RES-CHIP	56	5%	1/16W
R9273	1-216-806-11	RES-CHIP	56	5%	1/16W
R9274	1-216-806-11	RES-CHIP	56	5%	1/16W
R9275	1-218-272-11	RES-CHIP	5.1K	5%	1/16W
R9276	1-216-806-11	RES-CHIP	56	5%	1/16W
R9277	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9278	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9279	1-216-864-11	SHORT			
R9280	1-216-864-11	SHORT			
R9281	1-216-864-11	SHORT			
R9282	1-216-864-11	SHORT			
R9283	1-216-864-11	SHORT			
R9284	1-216-864-11	SHORT			
R9285	1-216-864-11	SHORT			
R9286	1-216-864-11	SHORT			
R9287	1-216-864-11	SHORT			
R9288	1-216-803-11	RES-CHIP	33	5%	1/16W
R9289	1-216-841-11	RES-CHIP	47K	5%	1/16W
R9290	1-219-570-11	RES-CHIP	10M	5%	1/16W
R9291	1-216-851-11	RES-CHIP	330K	5%	1/16W
R9292	1-216-864-11	SHORT			
R9293	1-216-821-11	RES-CHIP	1K	5%	1/16W
R9295	1-216-809-11	RES-CHIP	100	5%	1/16W
R9296	1-216-809-11	RES-CHIP	100	5%	1/16W
R9340	1-216-817-11	RES-CHIP	470	5%	1/16W
R9341	1-216-817-11	RES-CHIP	470	5%	1/16W
R9342	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R9343	1-216-841-11	RES-CHIP	47K	5%	1/16W
R9344	1-216-864-11	SHORT			
R9345	1-216-864-11	SHORT			
R9346	1-216-864-11	SHORT			
R9347	1-216-864-11	SHORT			
R9348	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9349	1-216-864-11	SHORT			
R9351	1-216-864-11	SHORT			
R9352	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9353	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9355	1-216-864-11	SHORT			
R9356	1-216-864-11	SHORT			
R9358	1-216-864-11	SHORT			
R9359	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9360	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9361	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9362	1-216-864-11	SHORT			
R9364	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R9365	1-216-864-11	SHORT			
R9366	1-216-841-11	RES-CHIP	47K	5%	1/16W
R9367	1-216-845-11	RES-CHIP	100K	5%	1/16W
R9368	1-216-813-11	RES-CHIP	220	5%	1/16W
R9369	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R9371	1-216-841-11	RES-CHIP	47K	5%	1/16W
R9372	1-216-808-11	RES-CHIP	82	5%	1/16W
R9373	1-216-864-11	SHORT			
R9374	1-216-808-11	RES-CHIP	82	5%	1/16W
R9375	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R9376	1-216-801-11	RES-CHIP	22	5%	1/16W
R9377	1-216-805-11	RES-CHIP	47	5%	1/16W
R9378	1-216-807-11	RES-CHIP	68	5%	1/16W
R9379	1-216-864-11	SHORT			
R9381	1-216-864-11	SHORT			

QI W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R9382	1-216-833-11	RES-CHIP	10K	5%	1/16W
R9391	1-216-833-11	RES-CHIP	10K	5%	1/16W
	RESISTOR BRIDGE				
RB9201	1-233-575-11	RES, CHIP NETWORK	22		
RB9202	1-233-575-11	RES, CHIP NETWORK	22		
RB9203	1-233-575-11	RES, CHIP NETWORK	22		
RB9204	1-233-575-11	RES, CHIP NETWORK	22		
RB9205	1-234-525-21	RES, CHIP NETWORK	56		
RB9206	1-234-525-21	RES, CHIP NETWORK	56		
RB9207	1-234-525-21	RES, CHIP NETWORK	56		
RB9208	1-234-525-21	RES, CHIP NETWORK	56		
RB9209	1-234-525-21	RES, CHIP NETWORK	56		
RB9210	1-234-525-21	RES, CHIP NETWORK	56		
RB9211	1-234-525-21	RES, CHIP NETWORK	56		
RB9212	1-234-525-21	RES, CHIP NETWORK	56		
RB9213	1-234-525-21	RES, CHIP NETWORK	56		
RB9224	1-234-525-21	RES, CHIP NETWORK	56		
RB9225	1-233-575-11	RES, CHIP NETWORK	22		
RB9226	1-233-575-11	RES, CHIP NETWORK	22		
RB9227	1-233-575-11	RES, CHIP NETWORK	22		
RB9228	1-233-575-11	RES, CHIP NETWORK	22		
	CRYSTAL				
X9202	1-579-886-21	VIBRATOR, CRYSTAL			
X9203	1-767-779-21	VIBRATOR, CRYSTAL			
W					
*	**A-1372-977-A**	**W BOARD, MOUNTED**			
	4-382-854-01	SCREW (M3X8), P, SW (+)			
	CAPACITOR				
C9101	1-104-999-11	MYLAR	0.1µF	10%	200V
C9104	1-126-933-11	ELECT	100µF	20%	16V
C9105	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C9106	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9108	1-107-662-11	ELECT	22µF	20%	250V
C9109	1-161-830-00	CERAMIC	.0047µF		500V
C9110	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9111	1-126-964-11	ELECT	10µF	20%	50V
C9112	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C9113	1-137-528-11	MYLAR	0.1µF	10%	250V
C9114	1-107-636-11	ELECT	10µF	20%	160V
C9115	1-137-528-11	MYLAR	0.1µF	10%	250V
C9116	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C9117	1-117-450-11	MYLAR	0.47µF	10%	250V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	CONNECTOR				
* CN9100	1-564-515-11	PLUG,CONNECTOR	12P		
* CN9101	1-564-506-11	PLUG,CONNECTOR	3P		
* CN9102	1-564-506-11	PLUG,CONNECTOR	3P		
* CN9103	1-770-747-11	CONNECTOR, BOARD TO BOARD 12P			
	FERRITE BEAD				
FB9100	1-410-397-21	FERRITE	1.1µH		
FB9101	1-410-397-21	FERRITE	1.1µH		
	COIL				
L9100	1-412-525-31	INDUCTOR	10µH		
	TRANSISTOR				
Q9100	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9101	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9102	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9103	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9104	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9105	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9106	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9107	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9108	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9109	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9110	8-729-045-04	TRANSISTOR 2SC5511			
Q9111	8-729-045-05	TRANSISTOR 2SA2005			
	RESISTOR				
R9101	1-216-017-91	RES-CHIP	47	5%	1/10W
R9102	1-249-381-11	CARBON	1	5%	1/4W
R9103	1-216-819-11	RES-CHIP	680	5%	1/16W
R9104	1-216-820-11	RES-CHIP	820	5%	1/16W
R9105	1-216-837-11	RES-CHIP	22K	5%	1/16W
R9106	1-218-715-11	METAL CHIP	9.1K	0.50%	1/16W
R9107	1-216-809-11	RES-CHIP	100	5%	1/16W
R9108	1-216-817-11	RES-CHIP	470	5%	1/16W
R9110	1-216-805-11	RES-CHIP	47	5%	1/16W
R9111	1-216-805-11	RES-CHIP	47	5%	1/16W
R9112	1-249-389-11	CARBON	4.7	5%	1/4W
R9113	1-249-389-11	CARBON	4.7	5%	1/4W
R9114	1-249-389-11	CARBON	4.7	5%	1/4W
R9115	1-249-389-11	CARBON	4.7	5%	1/4W
R9116	1-249-389-11	CARBON	4.7	5%	1/4W
R9117	1-249-389-11	CARBON	4.7	5%	1/4W
R9118	1-249-389-11	CARBON	4.7	5%	1/4W
R9119	1-249-389-11	CARBON	4.7	5%	1/4W

W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R9120	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R9121	1-216-848-11	RES-CHIP	180K	5%	1/16W
R9122	1-216-847-11	RES-CHIP	150K	5%	1/16W
R9123	1-216-848-11	RES-CHIP	180K	5%	1/16W
R9124	1-216-847-11	RES-CHIP	150K	5%	1/16W
R9125	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R9126	1-216-805-11	RES-CHIP	47	5%	1/16W
R9127	1-216-805-11	RES-CHIP	47	5%	1/16W
R9128	1-215-890-11	METAL OXIDE	470	5%	2W
R9129	1-216-817-11	RES-CHIP	470	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES

ACCESSORIES AND PACKING MATERIALS

*	4-066-845-02	BAG, PROTECTION
*	4-081-507-02	CARTON, HSC
*	4-081-640-02	CUSION, UPPER
*	4-081-641-01	CUSION, LOWER
	4-084-766-01	CUSHION, CENTER SUPPORT
*	4-396-077-01	JOINT
	4-083-273-22	MANUAL, INSTRUCTION
	4-083-273-31	MANUAL, INSTRUCTION

REMOTE COMMANDER

1-476-689-11	REMOTE COMMANDER (RM-Y185)
4-081-888-01	BATTERY COVER FOR RM-Y185

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

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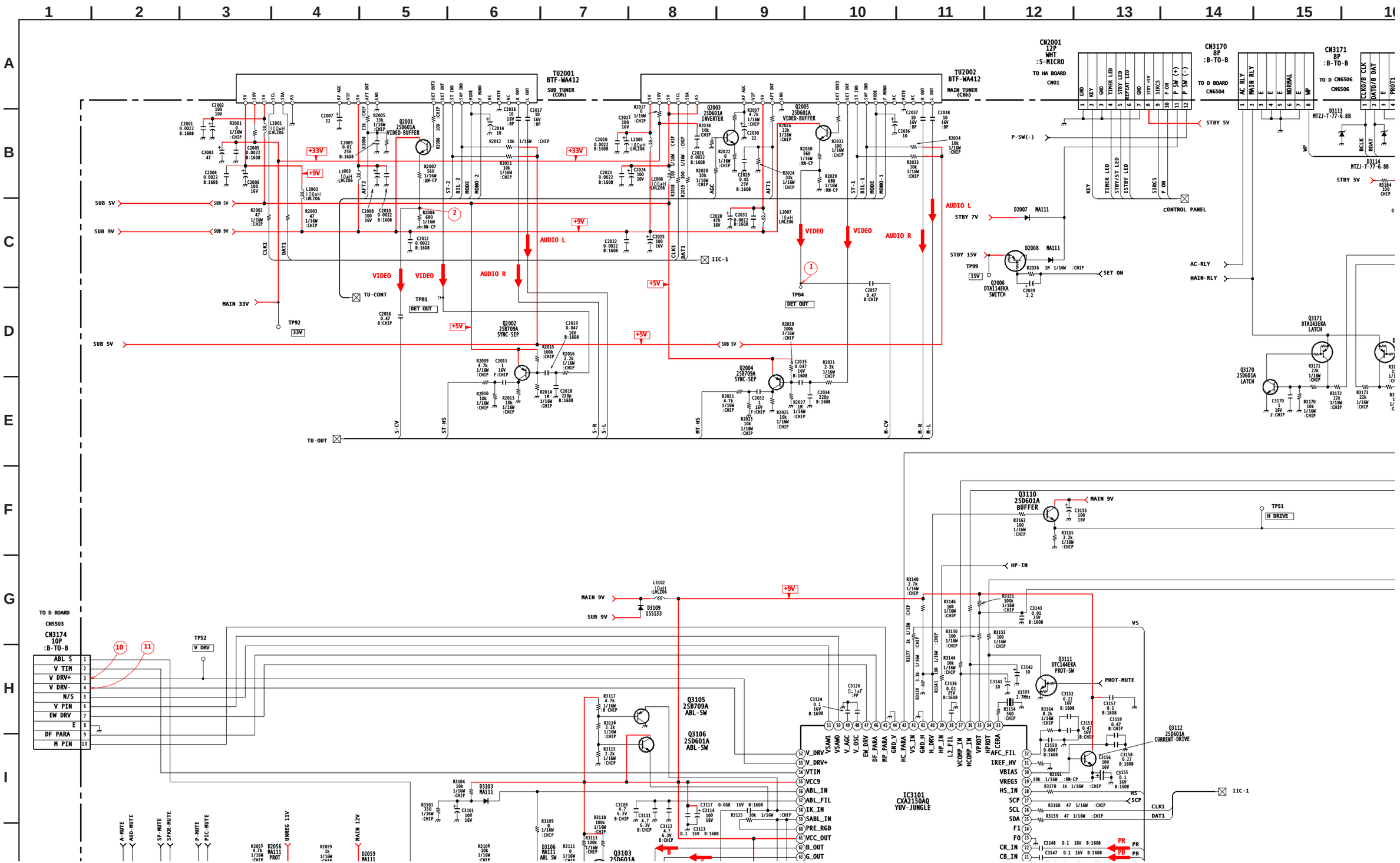
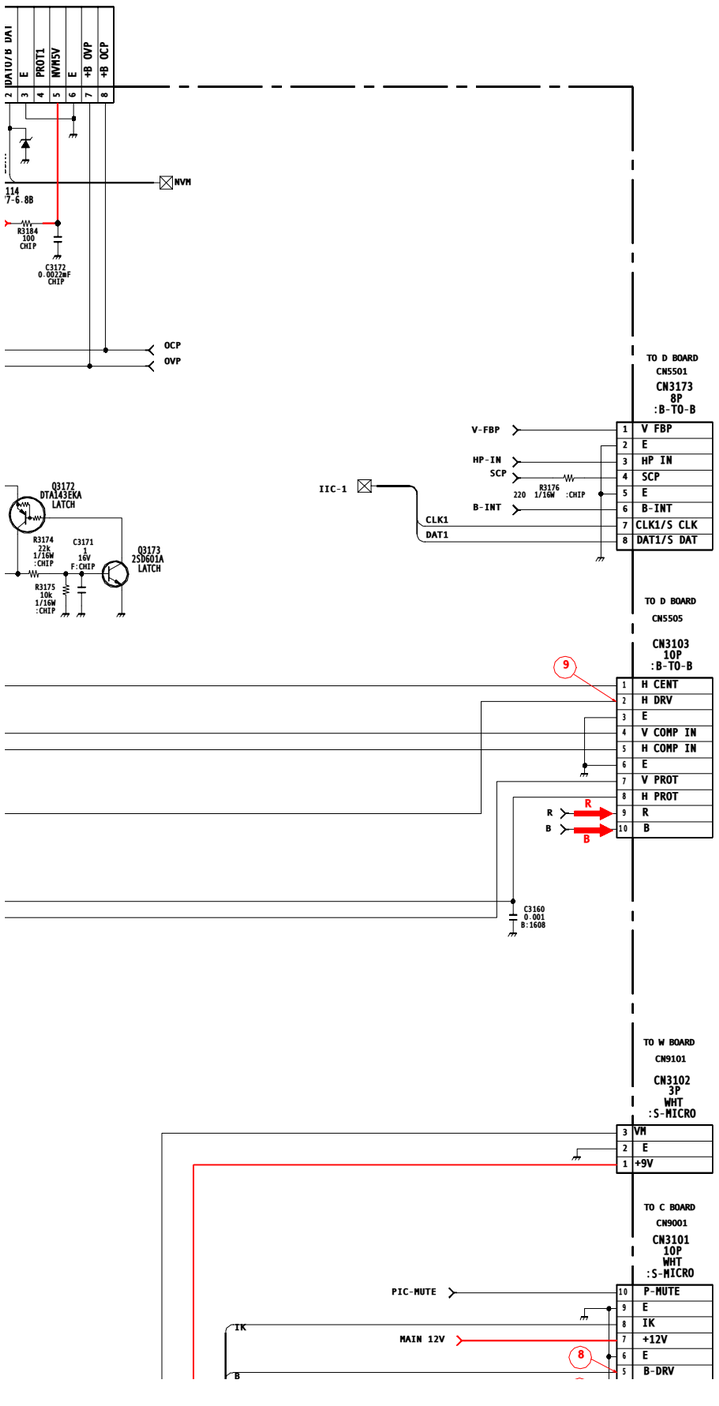
9-965-916-03

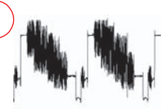
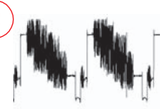
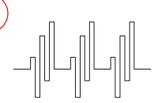
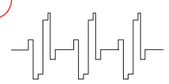
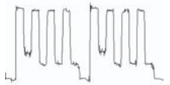
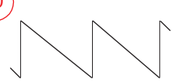
A BOARD SCHEMATIC DIAGRAM (1 OF 2)



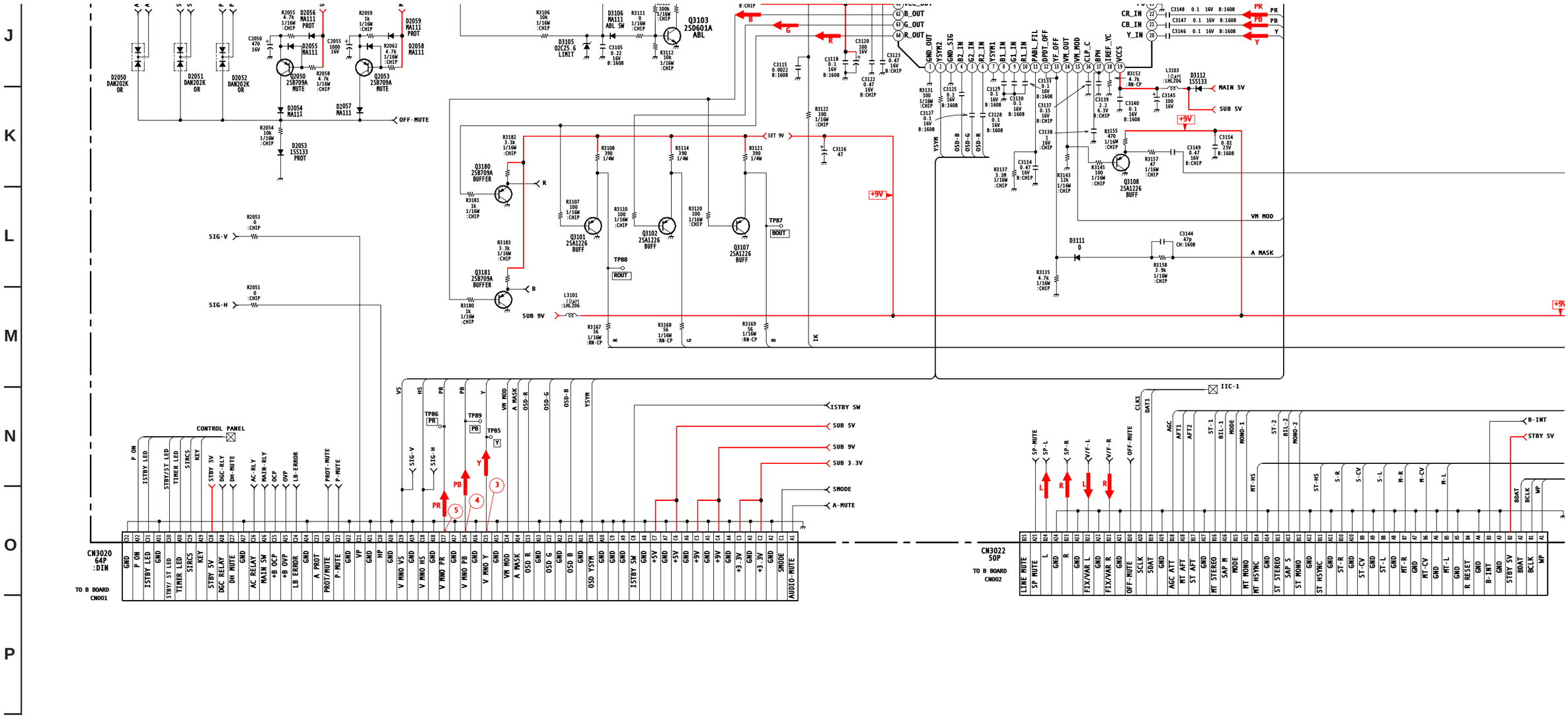
16 | 17 | 18 | 19 | 20

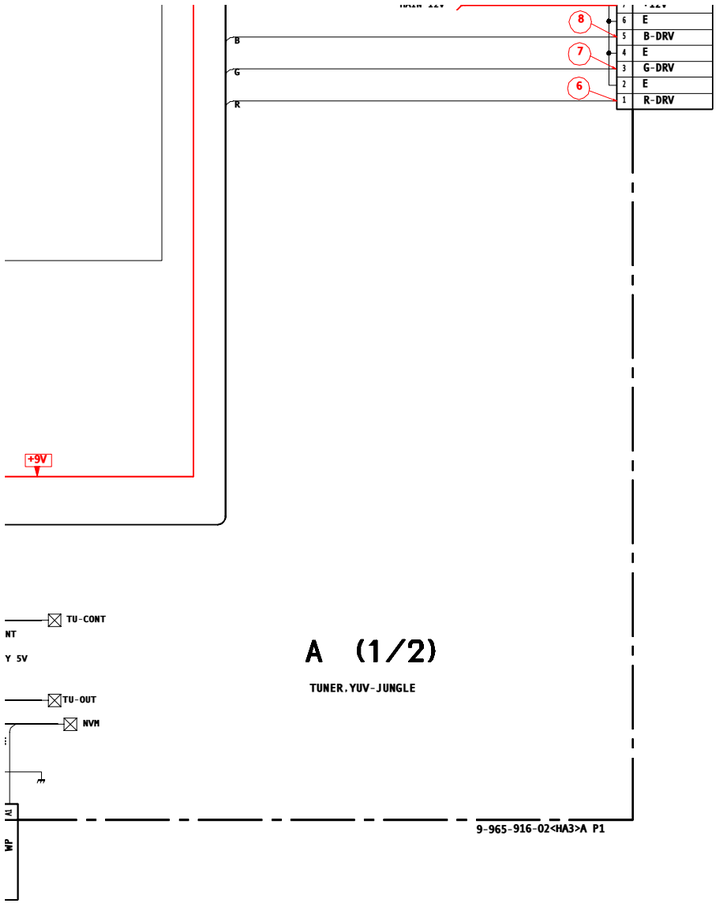


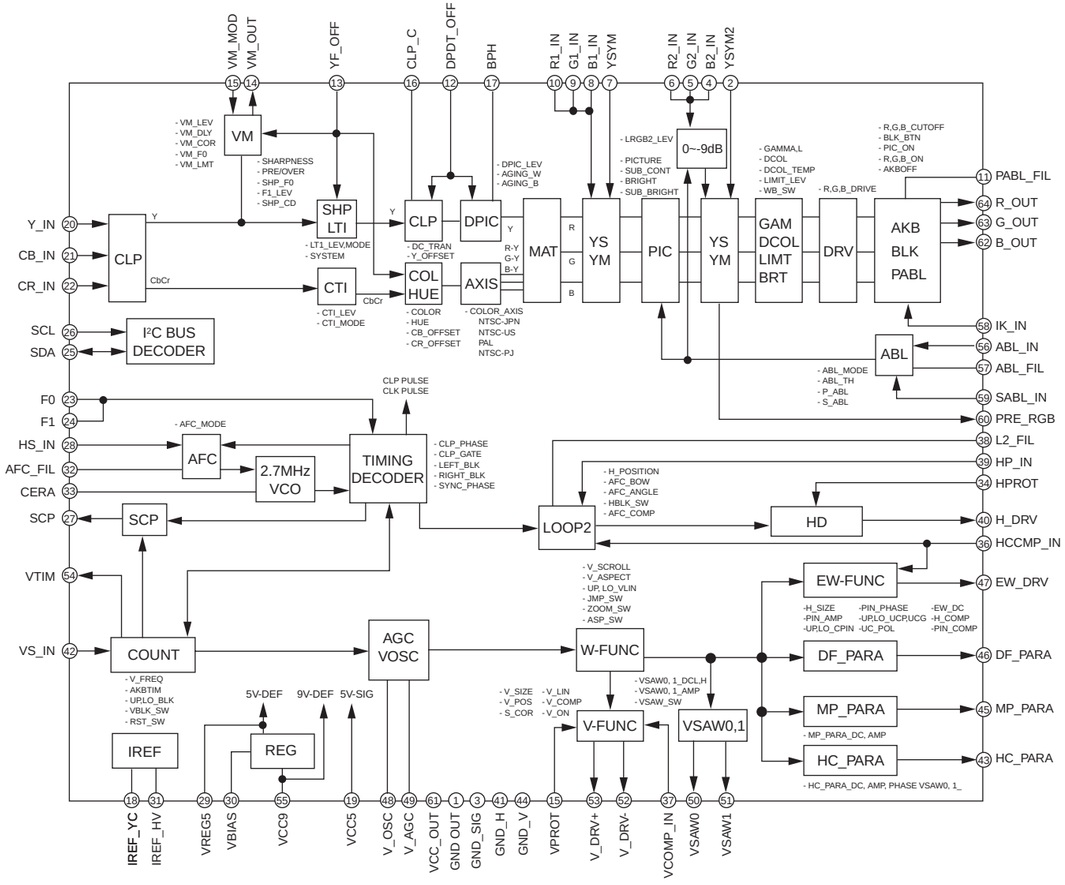
A BOARD WAVEFORMS

1  1.9 Vp-p (H)	2  1.9 Vp-p (H)	3 1.4 Vp-p (H)	4  0.6 Vp-p (H)
5  0.5 Vp-p (H)	6 3.1 Vp-p (H)	7 3.5 Vp-p (H)	8  3.3 Vp-p (H)
9 2.9 Vp-p (H)	10  1.7 Vp-p (V)	11 1.5 Vp-p (V)	

A BOARD: IC3101 CXA2150AQ


J
K
L
M
N
O
P
CN3020
64P
:DIN
TO B BOARD
CN001
CN3022
50P
TO B BOARD
CN002
CONTROL PANEL
IIC-1
OFF-MUTE
SIG-V
SIG-H
SUB 9V
SET 9V
MAIN 5V
SUB 5V
VM MOD
A MASK
ISTBY SW
SUB 3.3V
SMODE
A-MUTE
B-INT
STBY 5V
+9V


8
6 E
B
5 B-DRV
7
4 E
G
3 G-DRV
6
2 E
R
1 R-DRV
+9V
TU-CONT
NT
Y 5V
TU-OUT
NVM
A (1/2)
TUNER.YUV-JUNGLE
9-965-916-02<HA3>A P1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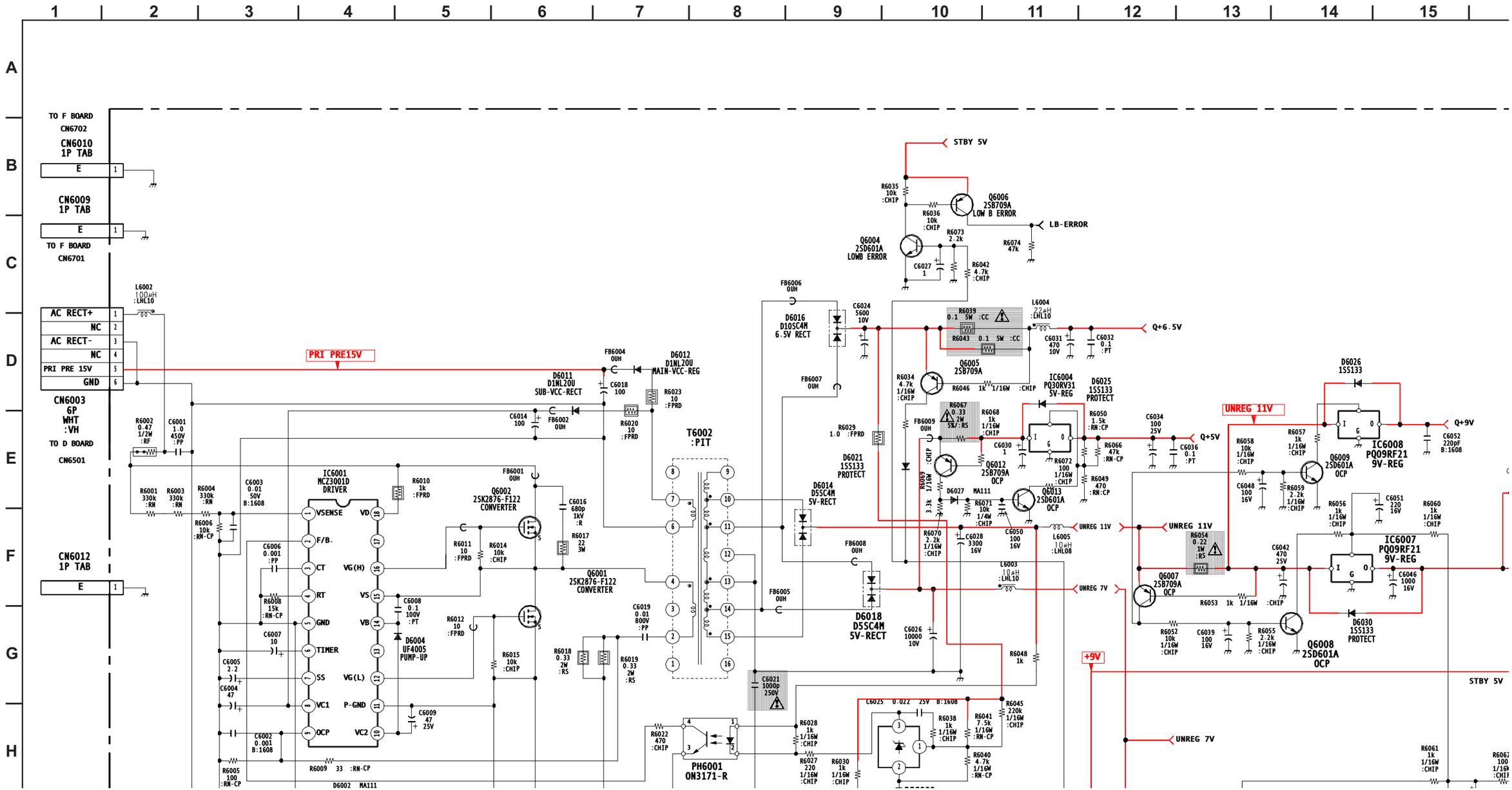
CLP_C
DPDT_OFF
BPH
R1_IN
G1_IN
B1_IN
YSYM
R2_IN
G2_IN
B2_IN
YSYM2
VM
- VM_LEV
- VM_DLY
- VM_COR
- VM_F0
- VM_LMT
- SHARPNESS
- PRE/OVER
- SHP_F0
- F1_LEV
- SHP_CD
SHP LTI
- LT1_LEV,MODE
- SYSTEM
CLP
- DC_TRAN
- Y_OFFSET
DPIC
- DPIC_LEV
- AGING_W
- AGING_B
MAT
R-Y
G-Y
B-Y
YS YM
PIC
- PICTURE
- SUB_CONT
- BRIGHT
- SUB_BRIGHT
0~-9dB
- LRGB2_LEV
YS YM
GAM DCOL LIMT BRT
- GAMMA,L
- DCOL
- DCOL_TEMP
- LIMIT_LEV
- WB_SW
DRV
- R,G,B_DRIVE
AKB BLK PABL
- R,G,B_CUTOFF
- BLK_BTN
- PIC_ON
- R,G,B_ON
- AKBOFF
PABL_FIL
R_OUT
G_OUT
B_OUT
Y_IN
CB_IN
CR_IN
CLP
CbCr
CTI
- CTI_LEV
- CTI_MODE
COL HUE
- COLOR
- HUE
- CB_OFFSET
- CR_OFFSET
AXIS
- COLOR_AXIS
NTSC-JPN
NTSC-US
PAL
NTSC-PJ
SCL
SDA
I²C BUS DECODER
ABL
- ABL_MODE
- ABL_TH
- P_ABL
- S_ABL
IK_IN
ABL_IN
ABL_FIL
SABL_IN
PRE_RGB
F0
F1
CLP PULSE
CLK PULSE
HS_IN
AFC_FIL
CERA
AFC
- AFC_MODE
2.7MHz VCO
TIMING DECODER
- CLP_PHASE
- CLP_GATE
- LEFT_BLK
- RIGHT_BLK
- SYNC_PHASE
L2_FIL
HP_IN
HPROT
SCP
LOOP2
- H_POSITION
- AFC_BOW
- AFC_ANGLE
- HBLK_SW
- AFC_COMP
HD
H_DRV
HCCMP_IN
VTIM
VS_IN
COUNT
- V_FREQ
- AKBTIM
- UPLO_BLK
- VBLK_SW
- RST_SW
AGC VOSC
- V_SCROLL
- V_ASPECT
- UP_LO_VLIN
- JMP_SW
- ZOOM_SW
- ASP_SW
W-FUNC
EW-FUNC
EW_DRV
-H_SIZE
-PIN_AMP
-UPLO_CPIN
-PIN_PHASE
-UPLO_UCP,UCG
-UC_POL
-EW_DC
-H_COMP
-PIN_COMP
DF_PARA
DF_PARA
MP_PARA
MP_PARA
- MP_PARA_DC, AMP
HC_PARA
HC_PARA
- HC_PARA_DC, AMP, PHASE VSAW0, 1_
5V-DEF
9V-DEF
5V-SIG
IREF
REG
- V_SIZE
- V_POS
- S_COR
- V_LIN
- V_COMP
- V_ON
V-FUNC
- VSAW0, 1_DCL,H
- VSAW0, 1_AMP
- VSAW_SW
VSAW0,1
IREF_YC
IREF_HV
VREG5
VBIAS
VCC9
VCC5
V_OSC
V_AGC
VCC_OUT
GND OUT
GND_SIG
GND_H
GND_V
VPROT
V_DRV+
V_DRV-
VCOMP_IN
VSAW0
VSAW1

A BOARD SCHEMATIC DIAGRAM (2 OF 2)



16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27

TO S CN4401

CN4402
15P
:B TO B

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H-L	H-R	W-L	W-R	E	SMODE	SUB 9V	SP-L	SP-R	E	VF-L	VF-R	E	SCL	SDA

SMODE

CLK1
DAT1

IIC-1

SMODE
SP-L
SP-R

SP-L
SP-R
H-L
H-R
W-L
W-R
VF-L
VF-R

TP93
SUB 9V
SUB 9V

L4401
22µH
:LAV35

+9V

Y 5V

R6063
4.7k
1/16W
:CHIP

R6064
10k
1/16W
:CHIP

R6062
100
1/16W
:CHIP

IC4405
TA8216H
AMP-H

1	2	3	4	5	6	7	8	9	10	11	12
	SGND						VCC	PGND	MUTE		

C4479
1

R4473
2.2k
1/16W
:CHIP

R4475
0
1/16W
:CHIP

C4480
470

R4483
4.7k
:CHIP

R4479
0
:CHIP

C4486
470
16V

D4409
MA113

D4413
MA111
PROTECTOR

D4410
MA111
PROTECTOR

C4492
2200
35V

H-R
H-L

TP104
H-L

R4492
10k

C4502
1000
25V

C4503
1000
25V

TP103
H-R

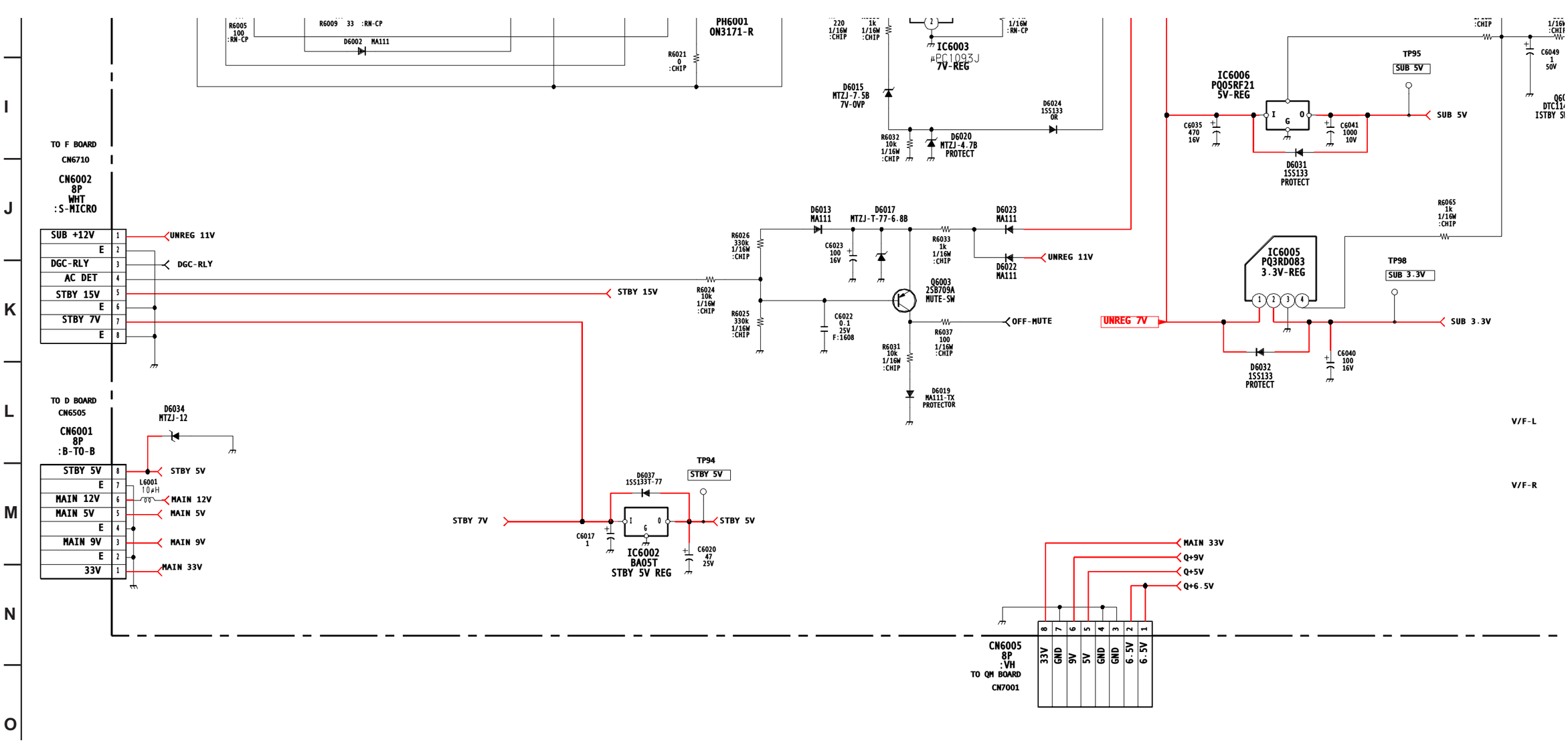
R4491

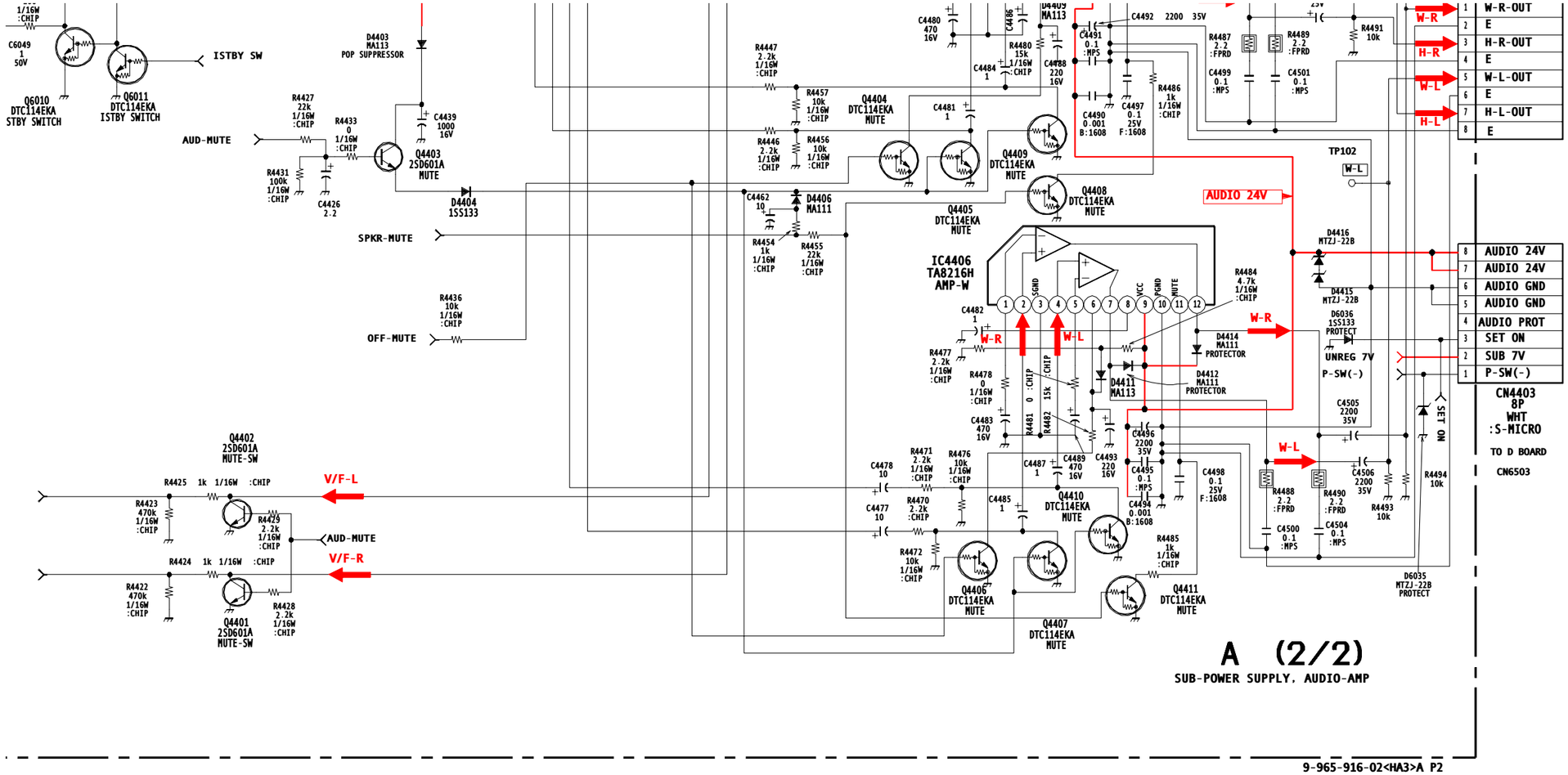
TP101
W-R

SPEAKER OUT

CN4404
8P
BLK
:S-MICRO

1	W-R-OUT
2	E


R6005 100 :RN-CP
R6009 33 :RN-CP
D6002 MA111
R6021 0 :CHIP
PH6001 ON3171-R
220 1/16W :CHIP
1k 1/16W :CHIP
IC6003 μPC1093J 7V-REG
1/16W :RN-CP
D6015 MTZJ-7.5B 7V-OVP
D6024 1SS133 OR
R6032 10k 1/16W :CHIP
D6020 MTZJ-4.7B PROTECT
IC6006 PQ05RF21 5V-REG
TP95 SUB 5V
C6035 470 16V
C6041 1000 10V
D6031 1SS133 PROTECT
C6049 1 50V
TO F BOARD CN6710
CN6002 8P WHT :S-MICRO
SUB +12V 1
E 2
DGC-RLY 3
AC DET 4
STBY 15V 5
E 6
STBY 7V 7
E 8
UNREG 11V
DGC-RLY
STBY 15V
D6013 MA111
D6017 MTZJ-T-77-6.8B
D6023 MA111
R6026 330k 1/16W :CHIP
C6023 100 16V
R6033 1k 1/16W :CHIP
D6022 MA111
UNREG 11V
R6024 10k 1/16W :CHIP
R6025 330k 1/16W :CHIP
C6022 0.1 25V F:1608
Q6003 2SB709A MUTE-SW
OFF-MUTE
R6037 100 1/16W :CHIP
R6031 10k 1/16W :CHIP
D6019 MA111-TX PROTECTOR
R6065 1k 1/16W :CHIP
IC6005 PQ3RD083 3.3V-REG
TP98 SUB 3.3V
UNREG 7V
D6032 1SS133 PROTECT
C6040 100 16V
SUB 5V
SUB 3.3V
V/F-L
V/F-R
TO D BOARD CN6505
CN6001 8P :B-TO-B
D6034 MTZJ-12
STBY 5V 8
E 7
MAIN 12V 6
MAIN 5V 5
E 4
MAIN 9V 3
E 2
33V 1
L6001 10μH
STBY 5V
MAIN 12V
MAIN 5V
MAIN 9V
MAIN 33V
STBY 7V
D6037 1SS133T-77
TP94 STBY 5V
C6017 1
IC6002 BA05T STBY 5V REG
C6020 47 25V
MAIN 33V
Q+9V
Q+5V
Q+6.5V
CN6005 8P :VH
TO QM BOARD CN7001
33V
GND
9V
5V
GND
GND
6.5V
6.5V



A (2/2)

SUB-POWER SUPPLY, AUDIO-AMP

9-965-916-02<HA3>A P2

B BOARD SCHEMATIC DIAGRAM (1 OF 3)

CHANGER ANTENNA
AS-2S

CN006 4P WHT :S-MICRO
TO ANT SW

CN007 10P RED :S-MICRO
NO CONNECT

ONOFF_MUTE TO P3

3D_RST TO P3

TO P2 YPBPR_SW_M
TO P2 YPBPR_SW_S

ST_FMONO
LINE_MUTE
C_MUTE
MAIN_SW
ISTBY_SW
AC_RLY
DGC_RLY
PTC_MUTE
S_MUTE
F_SP_MUTE
BOX_AST
MODEL
PROT_MUTE
XSTATUS
/HD_PASS
/A_RESET
ISTBY_LED
TIMER_LED
STBY/ST_LED
RXD
P_ON
TXD
MID_BUSY
+B_OVP
+B_OCP
LB_ERR
/BINT

+9V
STBT +5V

IC001
M306V2ME-154FP
MAIN MICRO

IC002
M52055FP
VIDEO SW

IC003

CN004 22P WHT :PHD
TO QM BOARD
CN8801

GRANT
GND
MID_BUSY
MICON_RST
V_MNO_PR
GND
V_MNO_PB
GND
V_MNO_Y
GND
V_MNO_HS
V_MNO_VS
OSD_R
GND
OSD_G
GND
OSD_B
GND
YSYM

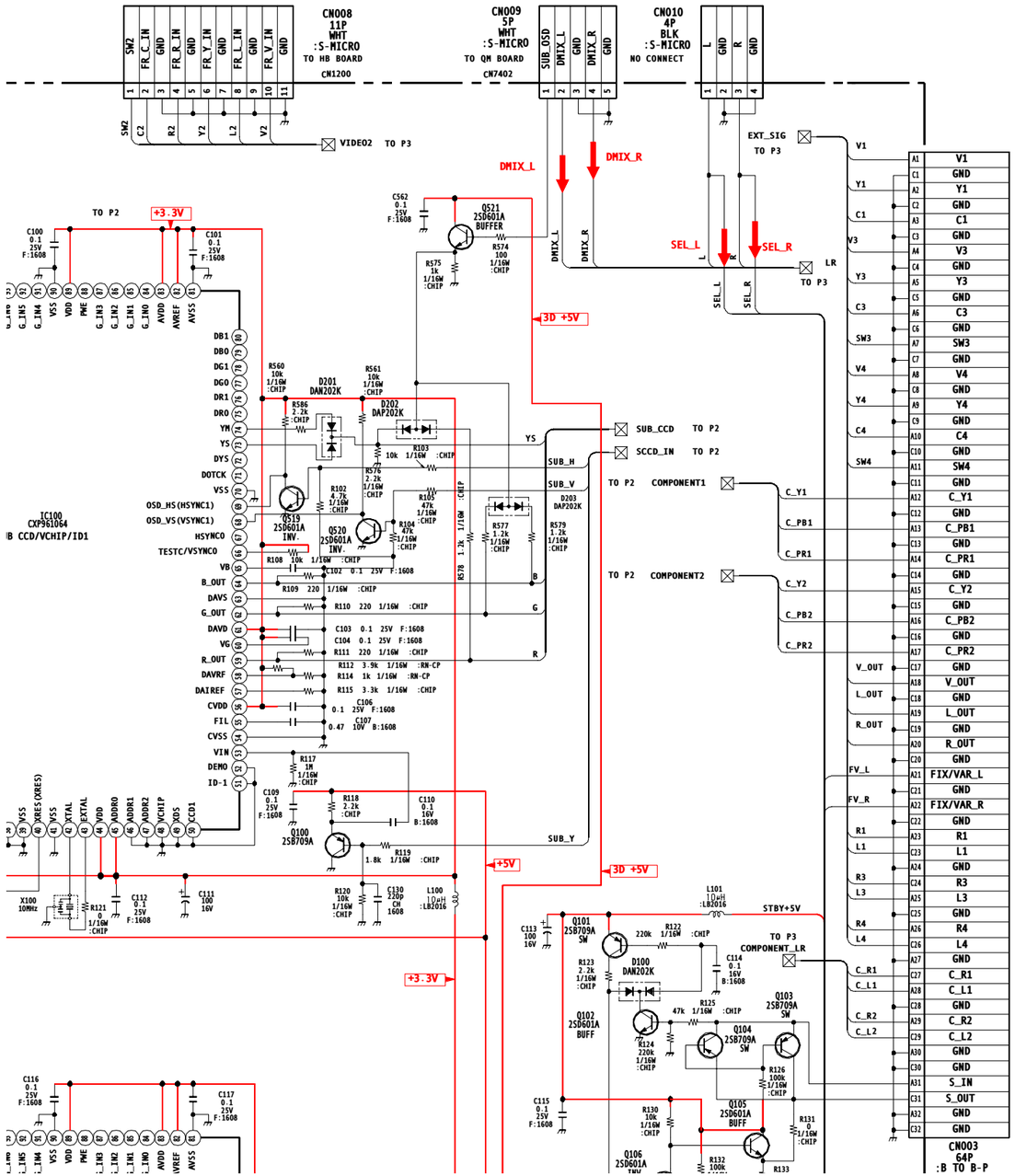
/ST_STR
/ST_SAP
MT_FMONO
MODE
/MT_STR
/MT_SAP
A_MUTE
S_MODE
ST_AFT
MT_AFT
KEY
VP
HP
VM_MOD

Y
PB
PR
A_Y
A_PB
A_PR

M16C R
M16C G
M16C B

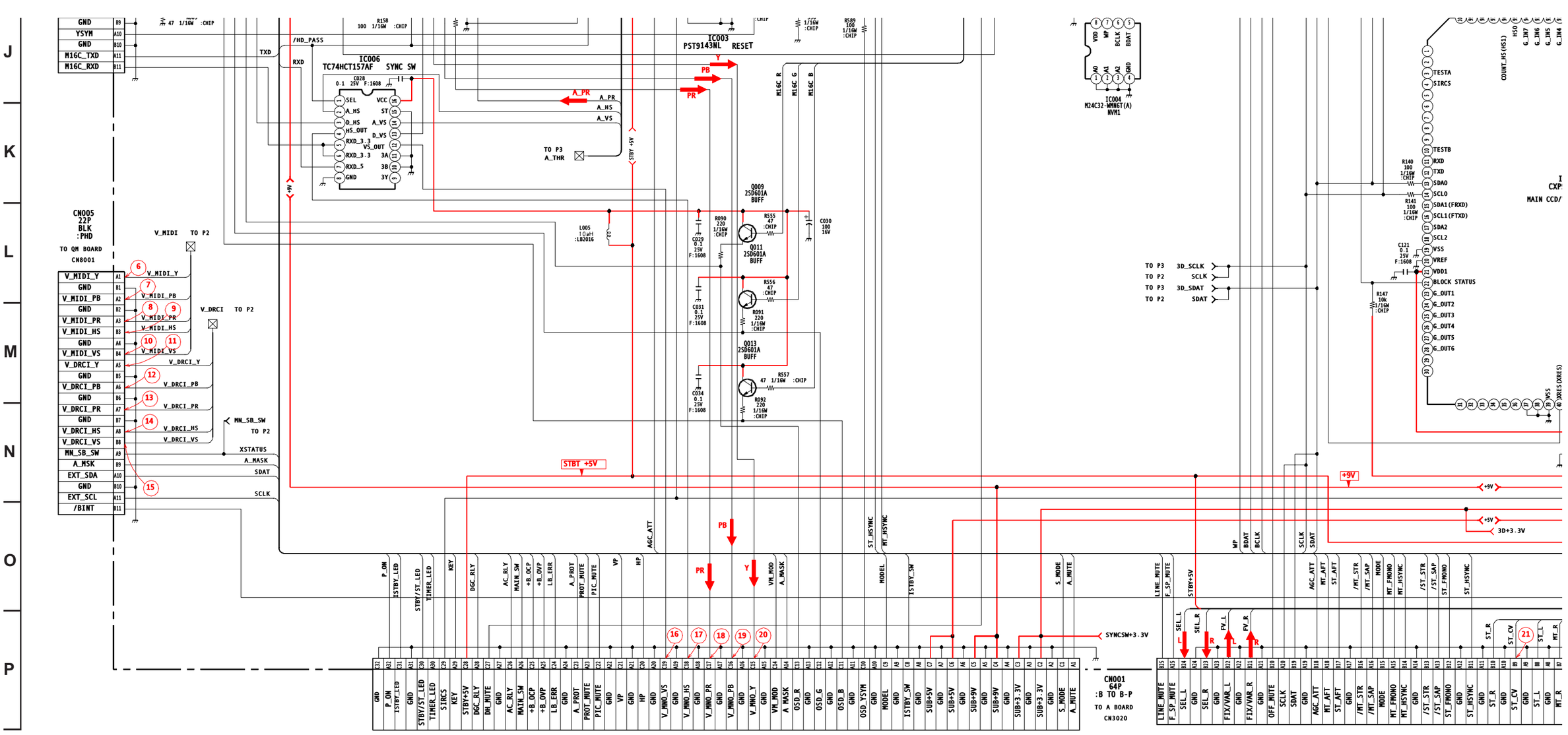
TESTA
SIRCS
TESTB
RXD
TXD
SDAO
SCL0
SDA1(FRXD)
SCL1(FTXD)
SDA2
SCL2
VSS
VREF
VDD1
BLOCK STATUS
G_OUT1
G_OUT2
G_OUT3
G_OUT4
G_OUT5
G_OUT6
XRES(XRES)

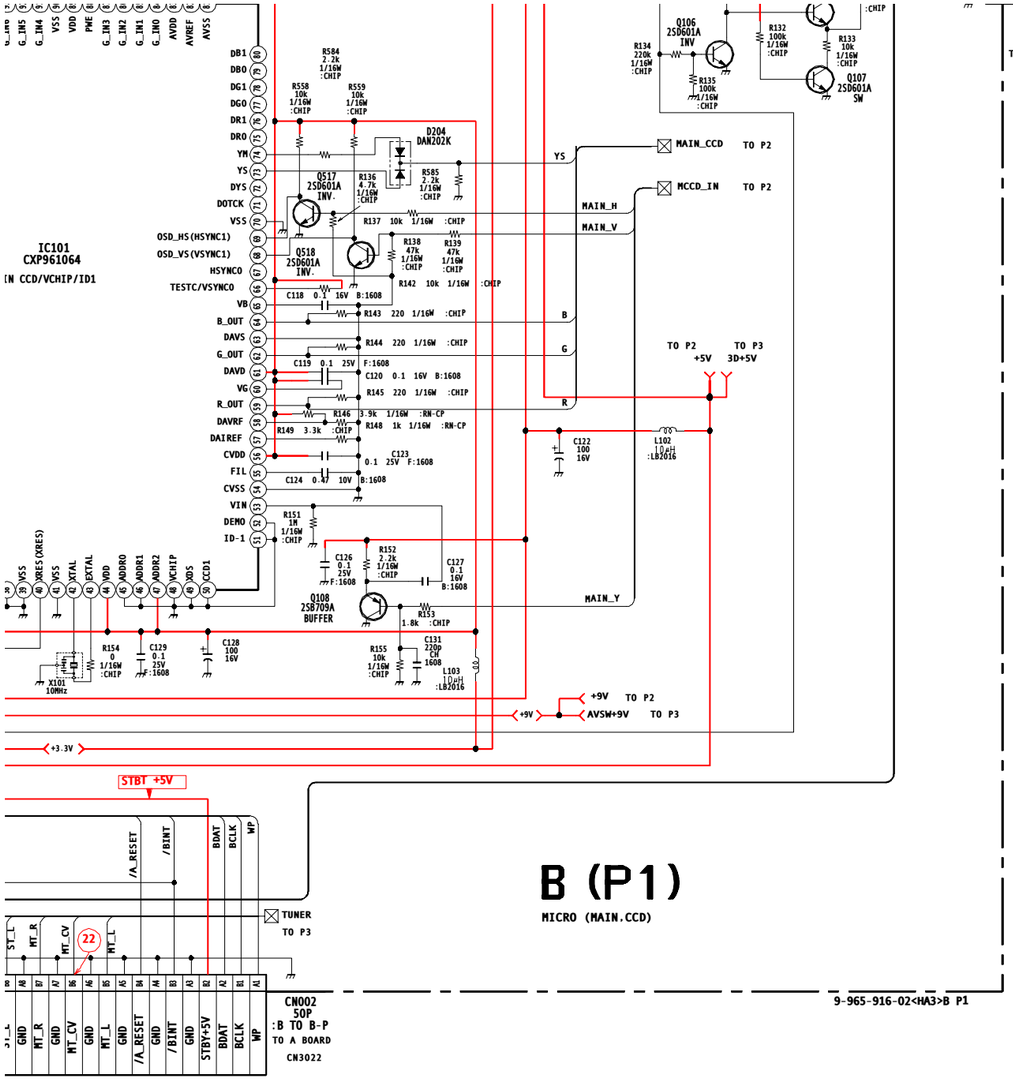
CXP
SUB CCD/V

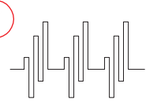
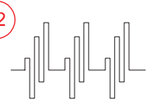
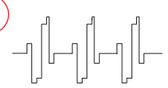
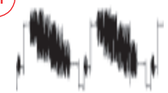
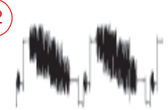


B BOARD WAVEFORMS

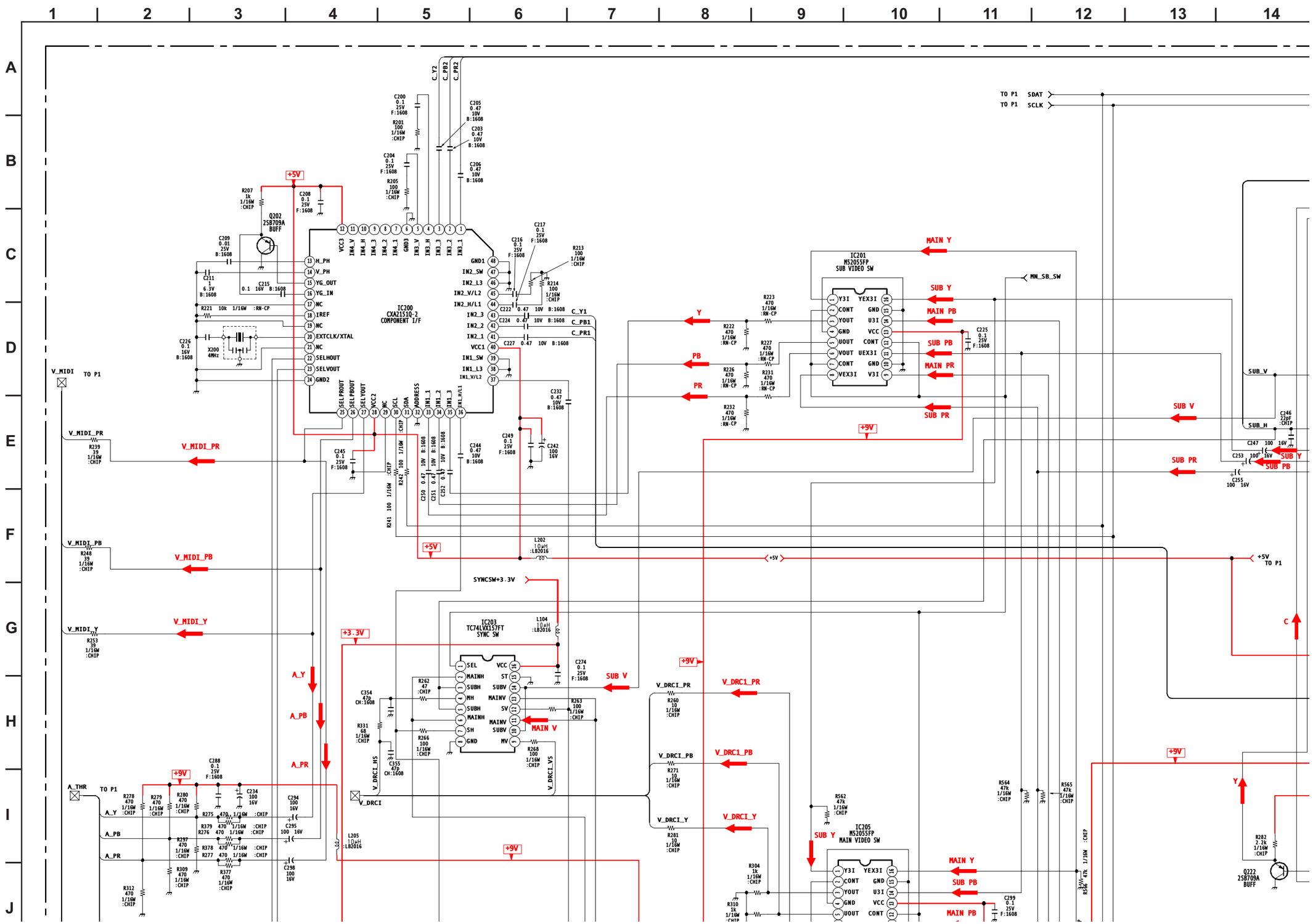
1 0.6 Vp-p (H)	2 0.6 Vp-p (H)	3 1.5 Vp-p (H)
4	5	6


CN005
22P
BLK
:PHD
TO QM BOARD
CN8001
V_MIDI_Y
GND
V_MIDI_PB
GND
V_MIDI_PR
V_MIDI_HS
GND
V_MIDI_VS
V_DRCI_Y
GND
V_DRCI_PB
GND
V_DRCI_PR
GND
V_DRCI_HS
V_DRCI_VS
MN_SB_SW
A_MSK
EXT_SDA
GND
EXT_SCL
/BINT
V_MIDI TO P2
V_DRCI TO P2
MN_SB_SW TO P2
XSTATUS
A_MASK
SDAT
SCLK
/HD_PASS
TXD
RXD
IC006
TC74HCT157AF SYNC SW
SEL
A_HS
D_HS
HS_OUT
RXD_3.3
VS_OUT
RXD_3.3
RXD_5
GND
VCC
ST
A_VS
D_VS
3A
3B
3Y
A_PR
A_HS
A_VS
TO P3 A_THR
IC003
PST9143NL RESET
STBY +5V
+9V
Q009 2SD601A BUFF
Q011 2SD601A BUFF
Q013 2SD601A BUFF
Q092 2SD601A BUFF
IC004
M24C32-WMNGT(A)
NVM1
TO P3 3D_SCLK
TO P2 SCLK
TO P3 3D_SDAT
TO P2 SDAT
COUNT_HS(HS1)
TESTA
SIRCS
TESTB
RXD
TXD
SDAO
SCLO
SDA1(FRXD)
SCL1(FTXD)
SDA2
SCL2
VSS
VREF
VDD1
BLOCK STATUS
G_OUT1
G_OUT2
G_OUT3
G_OUT4
G_OUT5
G_OUT6
XRES(XRES)
3D+3.3V
AGC_ATT
ST_HSYNC
MT_HSYNC
P_ON
ISTBY_LED
STBY/ST_LED
TIMER_LED
KEY
DGC_RLY
AC_RLY
MAIN_SW
+B_OCP
+B_OVP
LB_ERR
A_PROT
PROT_MUTE
PIC_MUTE
VP
HP
V_MHO_VS
V_MHO_HS
V_MHO_PR
V_MHO_PB
V_MHO_Y
VM_MOD
A_MASK
OSD_R
OSD_G
OSD_B
OSD_YSYM
MODEL
ISTBY_SW
S_MODE
A_MUTE
SYNCSW+3.3V
CN001
64P
:B TO B-P
TO A BOARD
CN3020
LINE_MUTE
F_SP_MUTE
SEL_L
SEL_R
FIX/VAR_L
FIX/VAR_R
OFF_MUTE
SCLK
SDAT
/MT_STR
/MT_SAP
MODE
MT_FMONO
/ST_STR
/ST_SAP
ST_FMONO
ST_R
ST_CV
ST_L



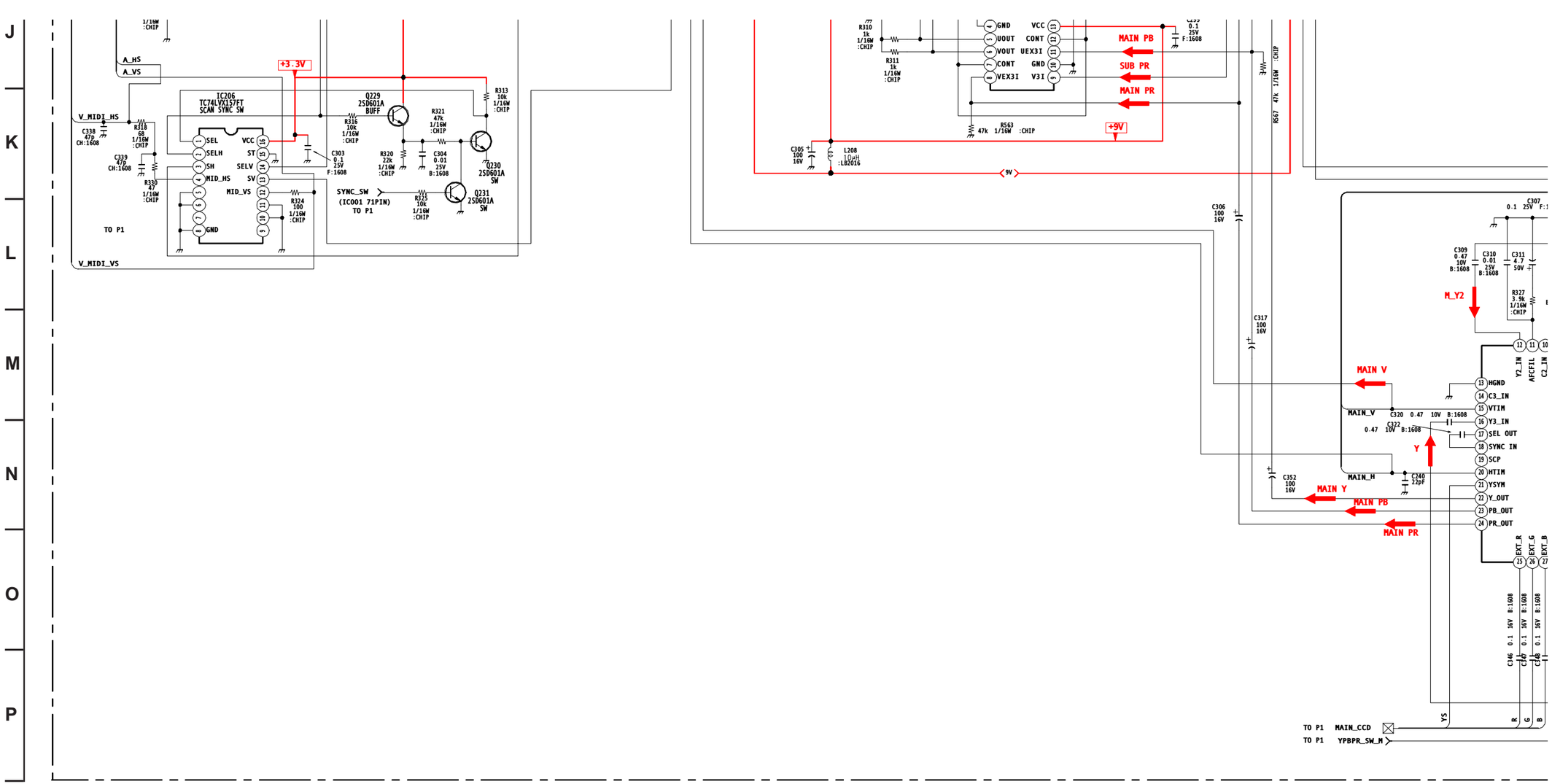
4 1.5 Vp-p (H)	5 1.4 Vp-p (V)	6 1.5 Vp-p (H)
7  1.1 Vp-p (H)	8 1.3 Vp-p (H)	9 3.5 Vp-p (H)
10 3.3 Vp-p (V)	11 1.5 Vp-p (H)	12  1.1 Vp-p (H)
13  1.1 Vp-p (H)	14 3.4 Vp-p (H)	15 3.4 Vp-p (V)
16 5.3 Vp-p (V)	17 5.0 Vp-p (H)	18 0.5 Vp-p (H)
19 0.6 Vp-p (H)	20 1.4 Vp-p (H)	21  1.9 Vp-p (H)
22  1.9 Vp-p (H)		

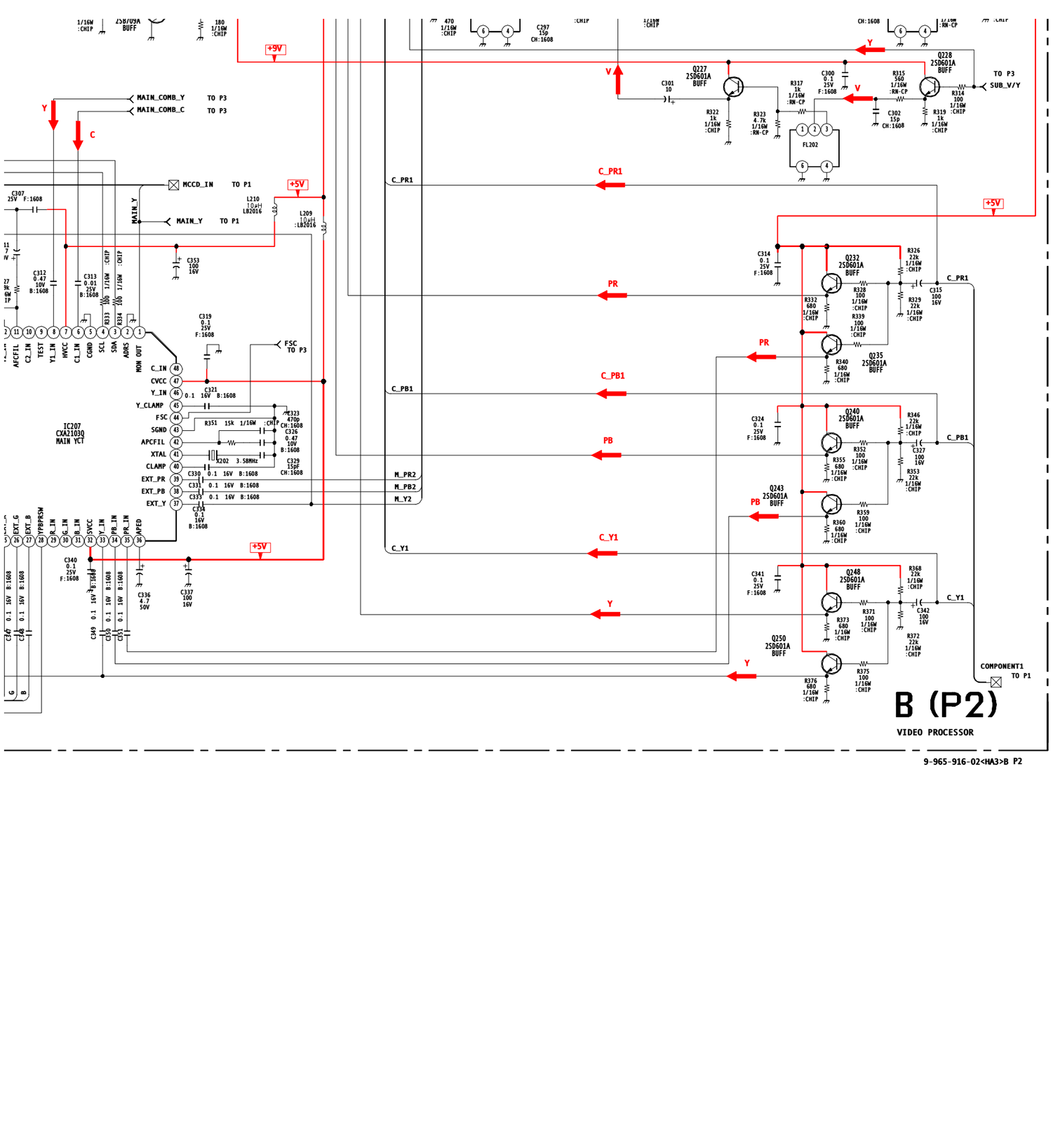
B BOARD SCHEMATIC DIAGRAM (2 OF 3)



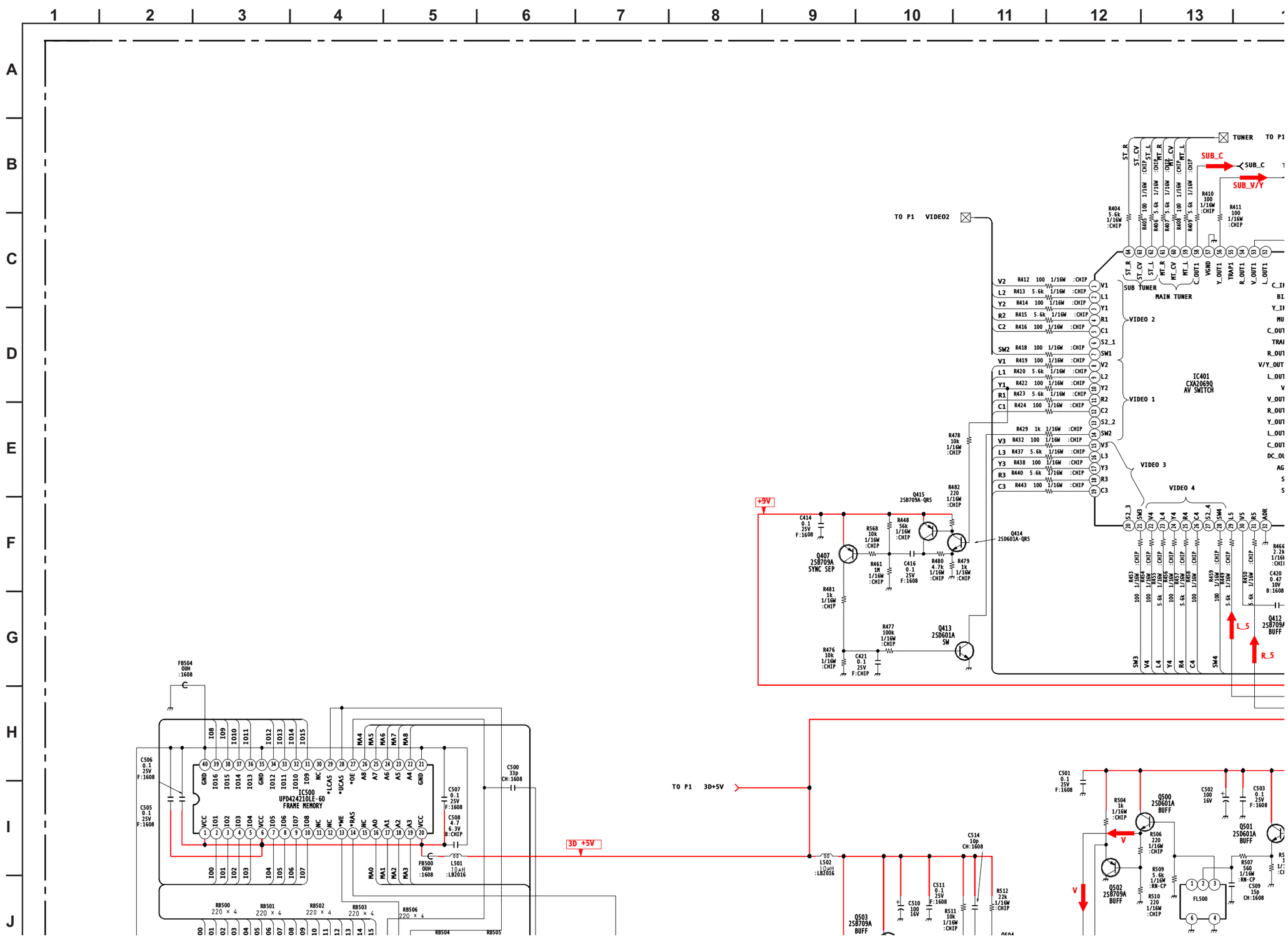
15 16 17 18 19 20 21 22 23 24

SCCD_IN TO P1
SUB_Y
EXT_Y
Y
C
+5V
C212 0.01 25V B:1608
C213 4.7 50V
C219 0.1 25V F:1608
C220 0.01 25V B:1608
C214 0.47 10V B:CHIP
C218 0.47 10V B:1608
R215 3.9k 1/16W :CHIP
R219 100 1/16W :CHIP
R220 100 1/16W :CHIP
C260 100 16V
C223 0.1 25V F:1608
C228 0.01 25V B:1608
C229 0.47 10V B:1608
C230 0.1 16V B:1608
C236 470p CH:1608
C239 0.47 10V B:1608
C241 15pF CH:1608
C243 0.1 16V B:1608
C248 0.1 16V B:1608
C254 0.1 16V B:1608
C256 0.1 16V B:1608
R235 15k 1/16W :CHIP
X201 3.58MHz
IC202 CXA2103Q SUB YCT
12 Y2_IN
11 APCFIL
10 C2_IN
9 TEST
8 Y1_IN
7 HVCC
6 C1_IN
5 CGND
4 SCL
3 SDA
2 ADRS
1 MON OUT
13 HGND
14 C3_IN
15 VTIM
16 Y3_IN
17 SEL OUT
18 SYNC IN
19 SCP
20 HTIM
21 YSYM
22 Y_OUT
23 PB_OUT
24 PR_OUT
48 C_IN
47 CVCC
46 Y_IN
45 Y_CLAMP
44 FSC
43 SGND
42 APCFIL
41 XTAL
40 CLAMP
39 EXT_PR
38 EXT_PB
37 EXT_Y
25 EXT_R
26 EXT_G
27 EXT_B
28 YPBPRSW
29 R_IN
30 G_IN
31 B_IN
32 SYCC
33 Y_IN
34 PB_IN
35 PR_IN
36 APED
C235 0.47 10V B:1608
C261 0.1 25V F:1608
C262 0.1 16V B:1608
C259 4.7 50V
C258 100 16V
L201 10μH :LB2016
C263 0.1 16V B:1608
C264 0.1 16V B:1608
C265 0.1 16V B:1608
C266 0.1 16V B:1608
C267 0.1 16V B:1608
YPBPR_SW_S TO P1
SUB_CCD TO P1
R G B
YS
L211 10μH LB2016
EXT_PR
EXT_PB
EXT_Y
L200 10μH :LB2016
C231 100 16V
C237 0.1 25V F:1608
C_PR2
C_PB2
C_Y2
M_PR2
M_PB2
M_Y2
Q200 2SD601A BUFF
Q201 2SD601A BUFF
Q203 2SD601A BUFF
Q204 2SD601A BUFF
Q205 2SD601A BUFF
Q208 2SD601A BUFF
C201 0.1 25V F:1608
C202 100 16V
C210 100 16V
C221 0.1 25V F:1608
C238 100 16V
R200 22k 1/16W :CHIP
R202 100 1/16W :CHIP
R203 22k 1/16W :CHIP
R204 680 1/16W :CHIP
R205 100 1/16W :CHIP
R208 680 1/16W :CHIP
R210 22k 1/16W :CHIP
R211 100 1/16W :CHIP
R212 22k 1/16W :CHIP
R216 680 1/16W :CHIP
R224 100 1/16W :CHIP
R225 680 1/16W :CHIP
R228 22k 1/16W :CHIP
R233 100 1/16W :CHIP
R234 22k 1/16W :CHIP
R236 680 1/16W :CHIP
R243 100 1/16W :CHIP
R244 680 1/16W :CHIP
COMPONENT2 TO P1
FB200 0UH :1608
L203 10μH :LB2016
L204 10μH :LB2016
FB201 0UH :1608
C268 100 16V
C271 0.1 25V F:1608
C272 0.1 25V F:1608
C275 0.001 B:1608
R592 1k 1/16W :CHIP
C276 0.022 25V B:1608
R259 56k 1/16W :RN-CP
R258 560 1/16W :RN-CP
C277 0.1 25V F:1608
IC204 CXD2073Q SUB COMB FILTER
24 TST1
23 TST2
22 DVSS
21 DVDD
20 NC
19 DVDD
18 DVSS
17 TST3
25 F_IN
26 CKSL
27 CPO
28 VCV
29 PLVD
30 PLVS
31 CLPEN
32 CLPO
16 APCN
15 MOD1
14 MOD2
13 INIT
12 IRF
11 VB
10 VG
9 VRF
1 ADIN
2 ADVS
3 ADVO
4 ACO
5 NC
6 DAVD
7 AVO
8 DAVS
R257 0 1/16W :CHIP
R264 3.3k 1/16W :RN-CP
C278 0.1 16V B:1608
R270 3.3k 1/16W :RN-CP
R273 2.2k 1/16W :RN-CP
C280 0.1 16V B:1608
C281 100 16V
C282 0.1 25V F:1608
C286 0.1 25V F:1608
C287 0.1 25V F:1608
+9V
L206 10μH :LB2016
TO P1
Q216 2SD601A BUFF
C284 0.1 25V F:1608
C285 100 16V
Q218 2SD601A BUFF
Q224 2SB709A BUFF
R284 220 1/16W :CHIP
R287 2.2k 1/16W :CHIP
R290 220 1/16W :CHIP
R298 180 1/16W :CHIP
R305 180 1/16W :CHIP
SUB_C TO P3
Q217 2SD601A BUFF
Q219 2SD601A BUFF
Q220 2SD601A BUFF
Q221 2SD601A BUFF
C290 0.1 25V F:1608
C292 0.1 16V B:1608
C293 100 16V
C291 0.1 25V F:1608
R285 22k 1/16W :CHIP
R288 470 1/16W :CHIP
R283 22k 1/16W :CHIP
R289 470 1/16W :CHIP
R291 560 1/16W :RN-CP
R302 470 1/16W :CHIP
R299 5.6k 1/16W :RN-CP
R292 560 1/16W :RN-CP
R296 33k 1/16W :CHIP
R294 150 1/16W :CHIP
R295 33k 1/16W :CHIP
R300 150 1/16W :CHIP
R306 470 1/16W :CHIP
R307 470 1/16W :CHIP
R308 470 1/16W :CHIP
R303 5.6k 1/16W :RN-CP
FL200
FL201
C296 15p CH:1608
C297 15p CH:1608


A_HS
A_VS
V_MIDI_HS
V_MIDI_VS
TO P1
IC206
TC74LVX157FT
SCAN SYNC SW
SEL
SELH
SH
MID_HS
MID_VS
GND
VCC
ST
SELV
SV
+3.3V
Q229
2SD601A
BUFF
Q230
2SD601A
SW
Q231
2SD601A
SW
SYNC_SW
(ICO01 71PIN)
TO P1
MAIN PB
SUB PR
MAIN PR
+9V
9V
MAIN V
MAIN Y
MAIN PB
MAIN PR
M_Y2
Y
MAIN_V
MAIN_H
HGND
C3_IN
VTIM
Y3_IN
SEL OUT
SYNC IN
SCP
HTIM
YSYM
Y_OUT
PB_OUT
PR_OUT
EXT_R
EXT_G
EXT_B
YS
R
G
B
TO P1 MAIN_CCD
TO P1 YPBPR_SW_M


+9V
MAIN_COMB_Y TO P3
MAIN_COMB_C TO P3
Y
C
MCCD_IN TO P1
MAIN_Y TO P1
+5V
C307 25V F:1608
L210 10uH LB2016
L209 10uH :LB2016
C312 0.47 10V B:1608
C313 0.01 25V B:1608
C353 100 16V
C319 0.1 25V F:1608
FSC TO P3
IC207 CXA2103Q MAIN YCT
C_IN
CVCC
Y_IN
Y_CLAMP
FSC
SGND
APCFIL
XTAL
CLAMP
EXT_PR
EXT_PB
EXT_Y
C321 0.1 16V B:1608
R351 15k 1/16W :CHIP
C322 470p CH:1608
C326 0.47 10V B:1608
X202 3.58MHz
C329 15pF CH:1608
C330 0.1 16V B:1608
C331 0.1 16V B:1608
C332 0.1 16V B:1608
C333 0.1 16V B:1608
C334 0.1 16V B:1608
C340 0.1 25V F:1608
C336 4.7 50V
C337 100 16V
C_PR1
C_PB1
C_Y1
M_PR2
M_PB2
M_Y2
PR
PB
Y
V
Q227 2SD601A BUFF
Q228 2SD601A BUFF
C301 10
R317 1k 1/16W :RN-CP
C300 0.1 25V F:1608
R315 560 1/16W :RN-CP
R314 100 1/16W :CHIP
R322 1k 1/16W :CHIP
R323 4.7k 1/16W :RN-CP
R319 1k 1/16W :CHIP
C302 15p CH:1608
FL202
TO P3 SUB_V/Y
Q232 2SD601A BUFF
R326 22k 1/16W :CHIP
R328 100 1/16W :CHIP
R329 22k 1/16W :CHIP
C315 100 16V
R332 680 1/16W :CHIP
R339 100 1/16W :CHIP
Q235 2SD601A BUFF
R340 680 1/16W :CHIP
Q240 2SD601A BUFF
R346 22k 1/16W :CHIP
R352 100 1/16W :CHIP
C327 100 16V
R355 680 1/16W :CHIP
R353 22k 1/16W :CHIP
Q243 2SD601A BUFF
R359 100 1/16W :CHIP
R360 680 1/16W :CHIP
Q248 2SD601A BUFF
R368 22k 1/16W :CHIP
R371 100 1/16W :CHIP
C342 100 16V
R373 680 1/16W :CHIP
R372 22k 1/16W :CHIP
Q250 2SD601A BUFF
R375 100 1/16W :CHIP
R376 680 1/16W :CHIP
COMPONENT1 TO P1
B (P2)
VIDEO PROCESSOR
9-965-916-02<HA3>B P2

B BOARD SCHEMATIC DIAGRAM (3 OF 3)



14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

TO P1

C TO P2

Y SUB_V/Y TO P2

L_OUT1 C_IN1 BIAS Y_IN1 MUTE C_OUT2 TRAP2 R_OUT2 //Y_OUT2 L_OUT2 VCC V_OUT3 R_OUT3 Y_OUT3 L_OUT3 C_OUT3 DC_OUT AGND SDA SCL ADR

C403 0.1 25V F:1608 C405 0.47 10V B:1608 C404 100 16V

C_2 R_2 L_2 V_3 R_3 L_3 C

R425 100 1/16W :CHIP C408 0.1 25V F:1608 R430 100 1/16W :CHIP

R441 220 1/16W :CHIP SDAT

R444 220 1/16W :CHIP SCLK

+9V

R466 2.2k 1/16W :CHIP C418 0.1 25V F:1608 C420 0.47 10V B:1608

Q412 2SB709A BUFF R474 2.2k 1/16W :CHIP R475 470 1/16W :CHIP MAIN_Y TO P2

R_5

L400 10μH :LB2016 C406 100 16V C422 10 50V C423 10 50V

AVSW+9V TO P1

+5V

C407 0.1 25V F:1608

Q400 2SD601A BUFF R417 4.7k 1/16W :CHIP R421 100k 1/16W :CHIP R428 180k 1/16W :CHIP R427 100k 1/16W :CHIP Q401 2SB709A BUFF

L401 10μH :LB2016 R433 10k 1/16W :CHIP R434 47 1/16W :CHIP C410 100 16V C409 0.1 25V F:1608

Q403 2SD601A BUFF Q405 2SD601A CURRENT SOURCE R445 100 1/16W :CHIP C417 0.1 25V F:1608 R460 2.2k 1/16W :CHIP R463 56 1/16W :CHIP

L402 10μH :LB2016 R439 1k 1/16W :CHIP C413 10 C411 0.1 25V F:1608 C412 100 16V R446 470k 1/16W :CHIP R447 470 1/16W :CHIP R465 1k 1/16W :CHIP

Q404 2SB709A BUFF R451 75 1/16W :RN-CP C415 470 16V R464 470k 1/16W :CHIP

Q406 2SD601A MUTE R452 1k 1/16W :CHIP

C419 10 R468 470 1/16W :CHIP R469 470k 1/16W :CHIP Q409 2SD601A MUTE R470 1k 1/16W :CHIP Q411 2SB709A BUFF R471 47k 1/16W :CHIP R473 1k 1/16W :CHIP ONOFF_MUTE TO P1

V_OUT L_OUT R_OUT EXT_SIG TO P1

L500 10μH :LB2016 +9V R505 100 1/16W :CHIP R508 1k 1/16W :CHIP SUB V/Y_2

IC400 NJM4558M-T2 AUDIO BUFF

L_5 R_5 +9V DMIX_R DMIX_L

R400 5.6k 1/16W :RN-CP R402 6.8k 1/16W :RN-CP C558 10 R569 100k 1/16W :CHIP R401 5.6k 1/16W :RN-CP R403 6.8k 1/16W :RN-CP C400 0.1 25V F:1608 R571 100k 1/16W :CHIP R572 120k 1/16W :CHIP

R570 120k 1/16W :CHIP C559 1 C560 1 C561 10

R484 4.7k 1/16W :CHIP R483 4.7k 1/16W :CHIP R485 6.8k 1/16W :CHIP R486 6.8k 1/16W :CHIP

L_2 R_2 LR TO P1

IC402 NJM2521M(TE2) AUDIO SW L

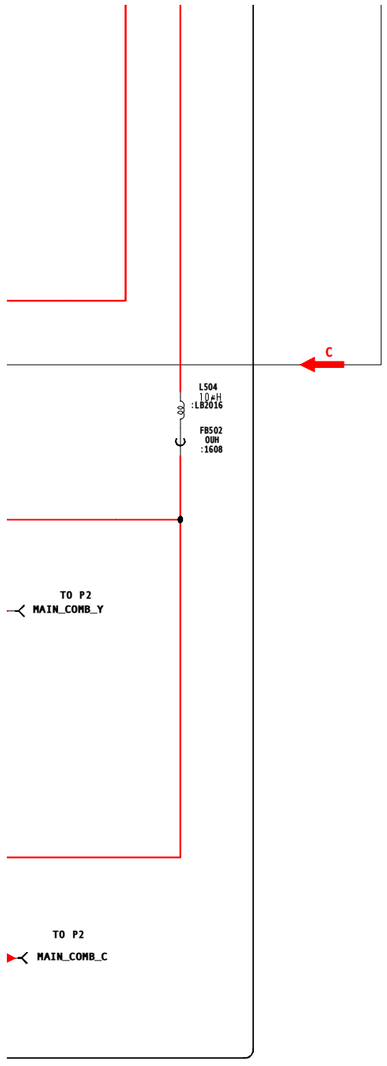
IC403 NJM2521M(TE2) AUDIO SW R

C401 0.1 25V F:1608 C402 0.1 25V F:1608

C_L1 C_L2 C_R1 C_R2 COMPONENT_LR TO P1

IC501
μPD64082
3D COMB FILTER

+3.3V
+9V
3D+3.3V TO P1
TO P1 3D_RST
TO P1 3D_SDAT
TO P1 3D_SCLK
SCLK
SDAT
FSC
TO P2



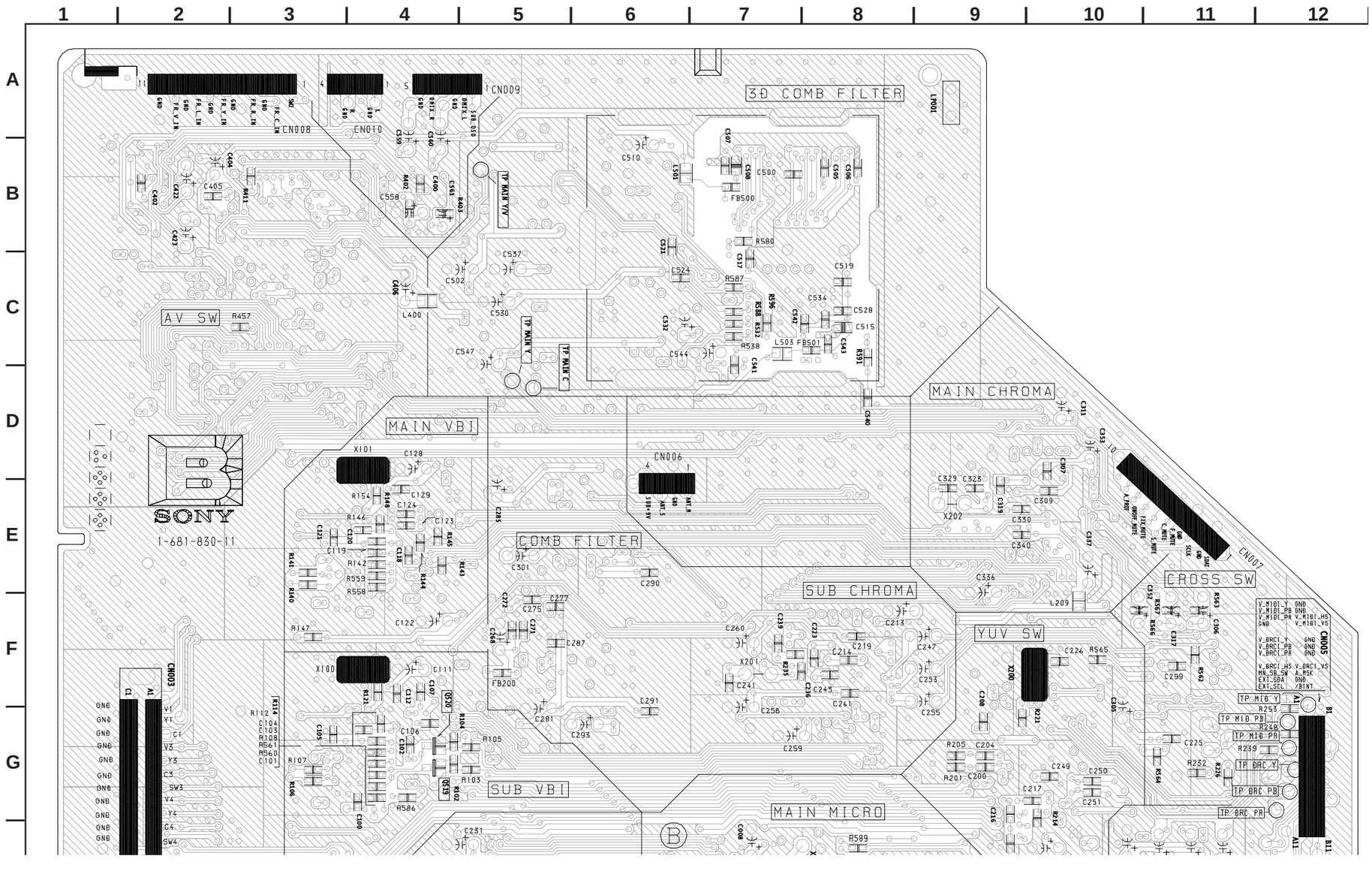
B (P3)

3D-COMB.AV-SW

9-965-916-02<HA3>B P3

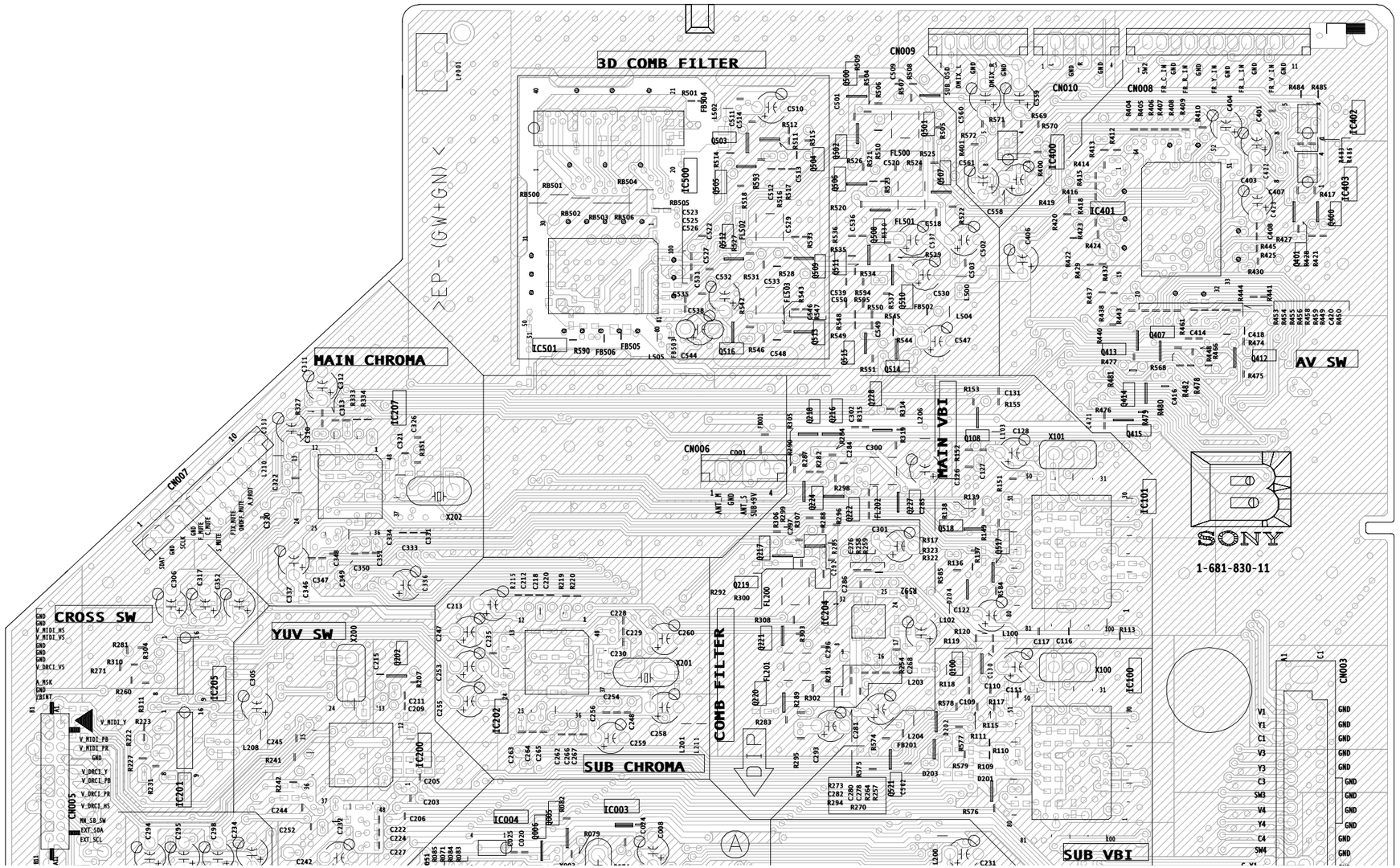
B [MICRO (MAIN, CCD), VIDEO PROCESSOR, 3D-COMB, AV-SW]

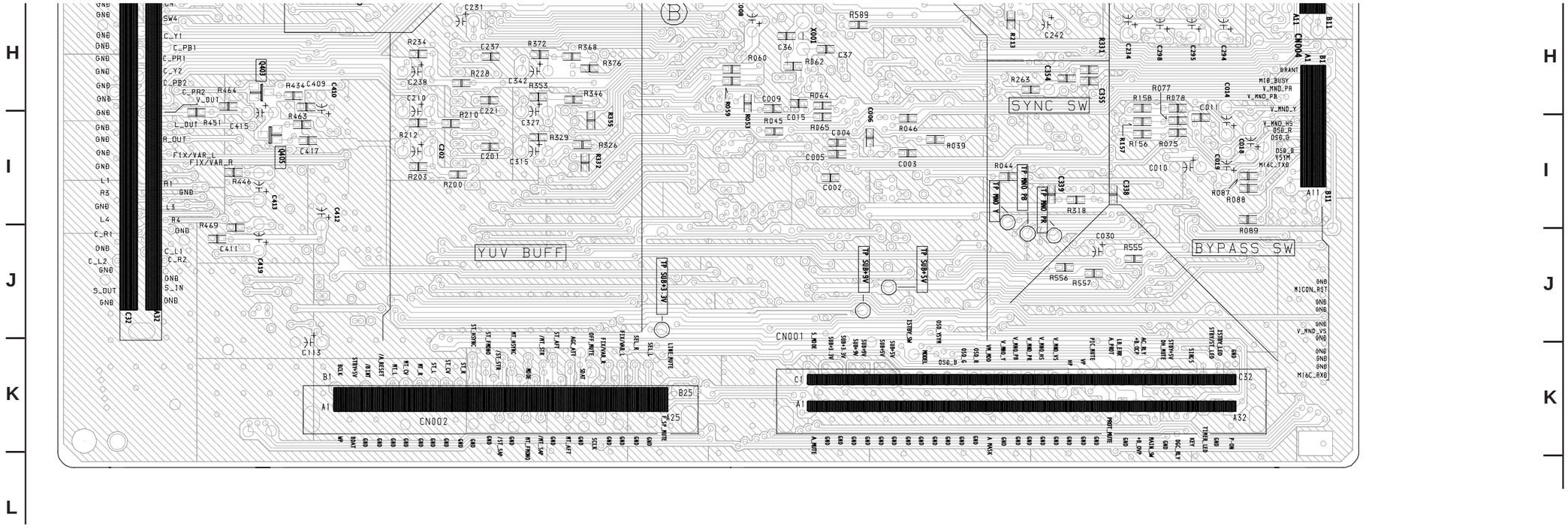
CONDUCTOR SIDE

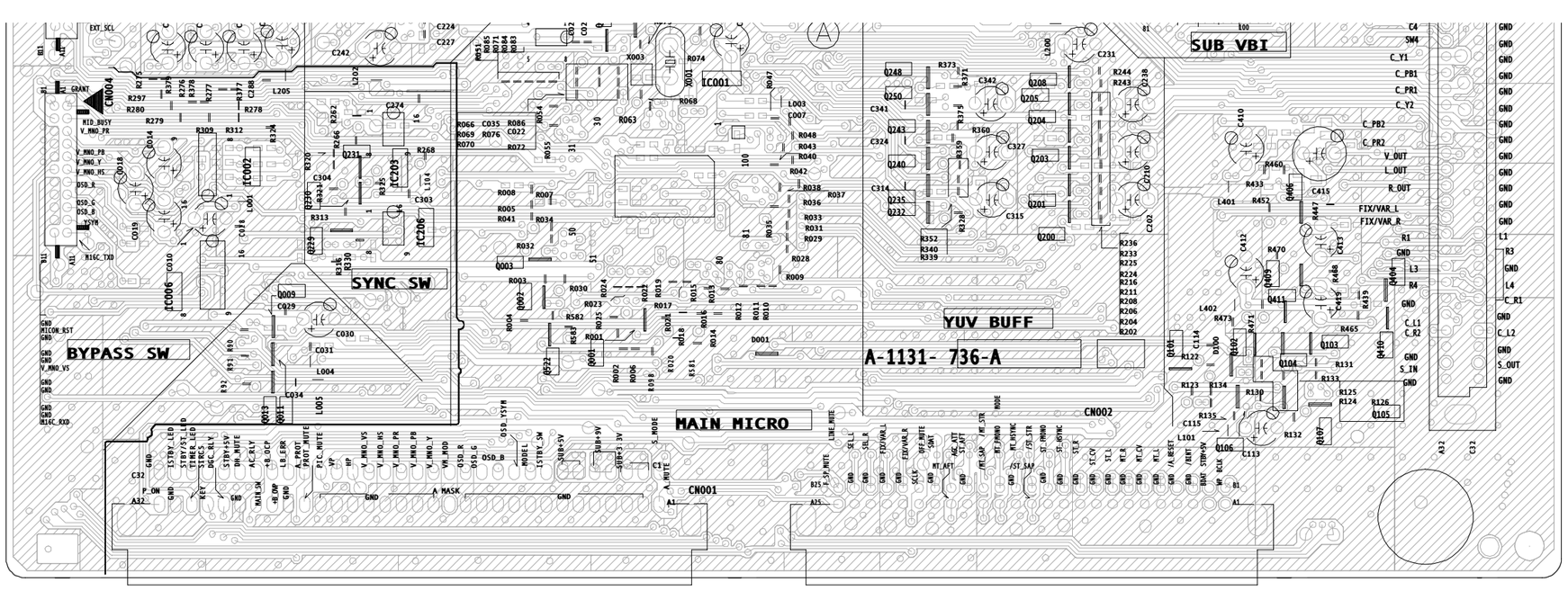


ONENT SIDE

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12




YUV BUFF
SYNC SW
BYPASS SW
CN001
CN002
CN004


SUB VBI
SYNC SW
BYPASS SW
YUV BUFF
A-1131- 736-A
MAIN MICRO
CN001
CN002
CN004
IC001
IC002
IC203
IC206
IC006

D BOARD SCHEMATIC DIAGRAM (1 OF 3)

D (1/3)

POWER SUPPLY
AC RECT

JR6501
0
:CHIP

TO F BOARD
CN6709
CN6502
2P
WHT
:MINI(LOCK)

AC OUT	1
AC OUT	2

TO A BOARD
CN6003

AC RECT+	1
NC	2
AC RECT-	3
NC	4
PRI 15V	5
GND	6

CN6501
6P
WHT
:VH

AC RLY	1
MAIN RLY	2
E	3
E	4
E	5
NORMAL	6

TO P2
MAIN RLY

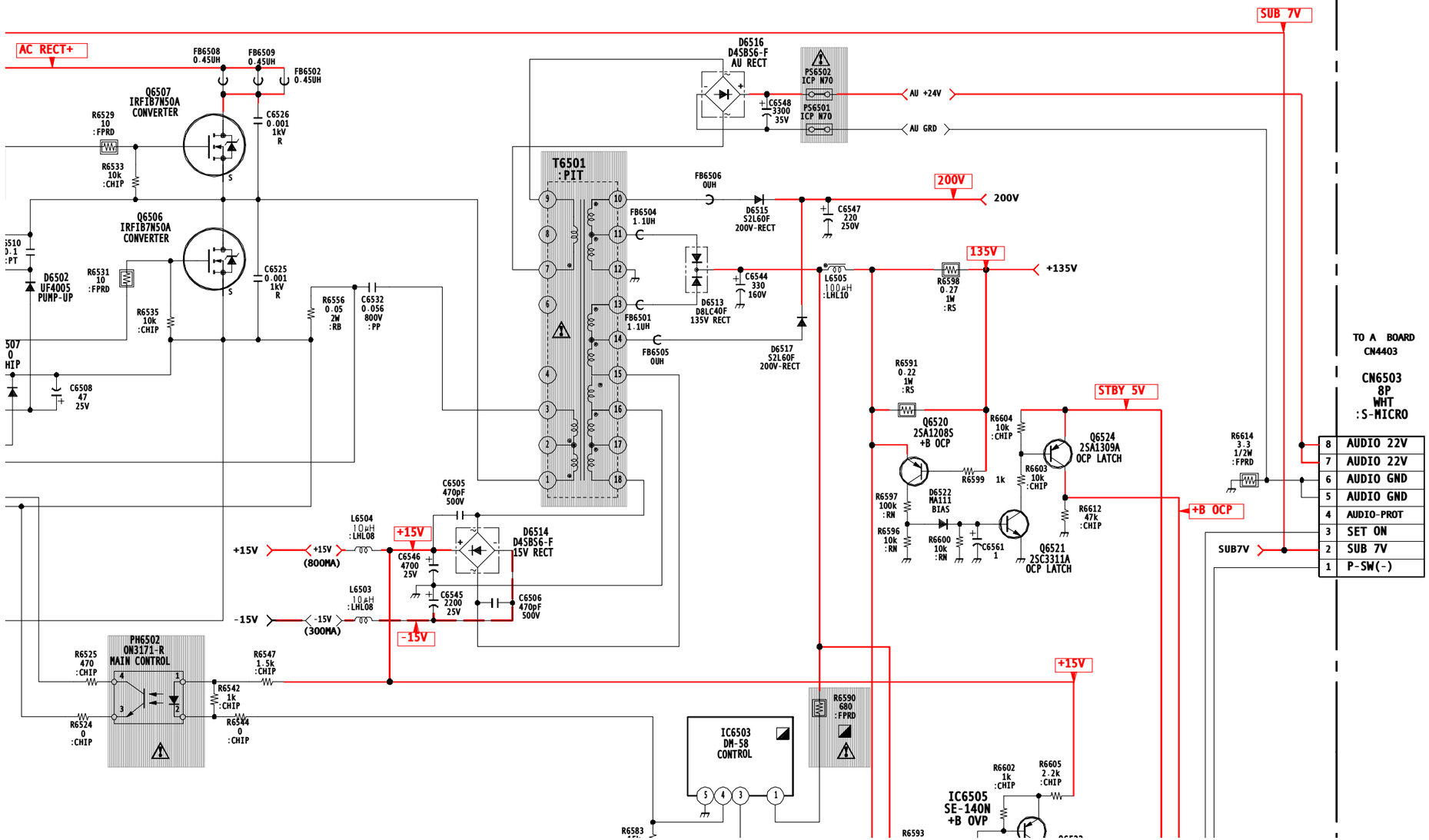
C6584 0.047 125V
C6585 0.001 250V B
C6591 0.001 250V B
RY6501
R6516 3.3 10W :RB
RY6502
D6534 DIN40TA2
R6519 0 :CHIP
D6533 MA111 PROTECT
C6586 0.0047 250V F
C6588 0.0047 250V F
D6530 D6SB60L AC-RECT
C6587 0.0047 250V F
C6589 0.0047 250V F
JW6503 7.5MM
JW6504 7.5MM
C6590 1200 250V
C6503 1200 250V
R6515 470k 1/2W
R6502 470k 1/2W
D6509 ERC04-06SE
D6510 ERC04-06SE
D6532 ERA22-08 STOPPER
R6521 1k 1/2W :FPRD
R6507 4.7k :CHIP
PH6501 ON3171-R RESISTOR SHORT
R6510 22 1W :RS
R6526 0.1 1/2W :RF
R6557 100k :CHIP

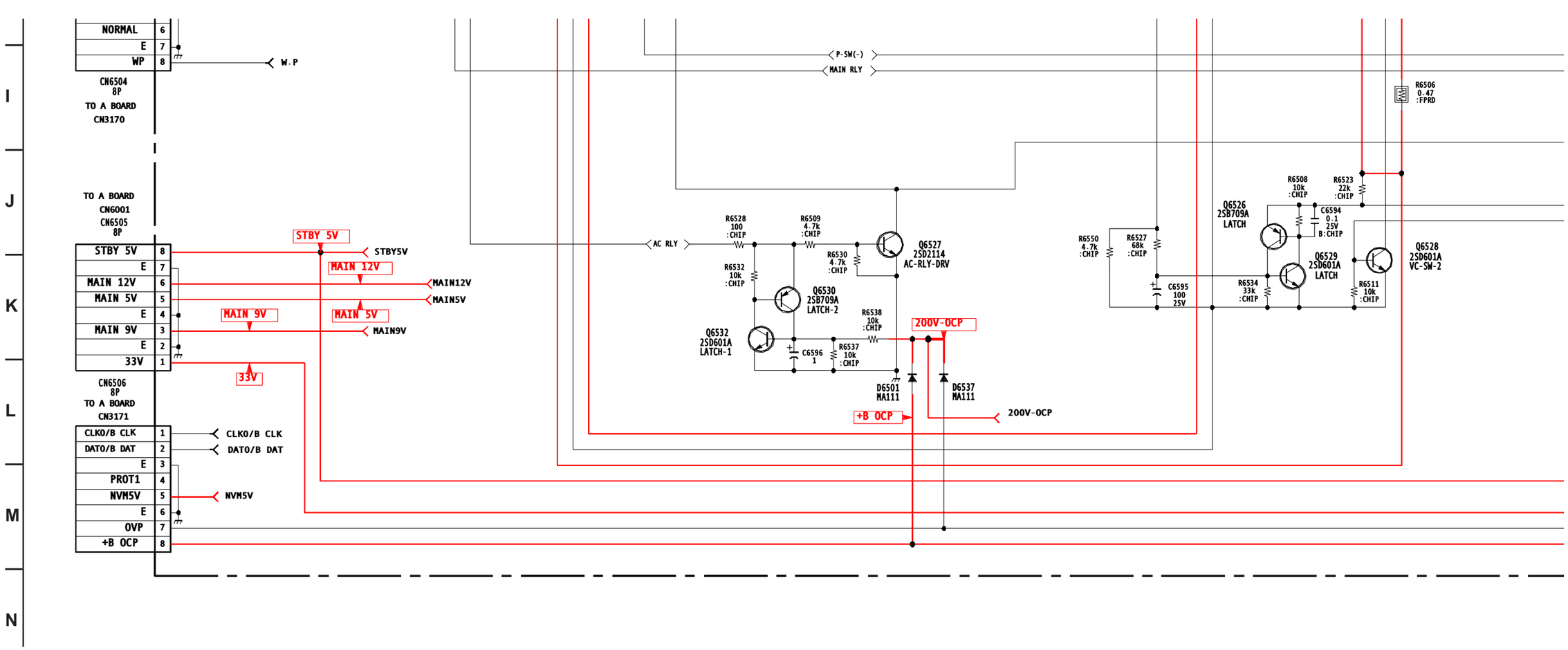
AC RECT+
PRI 15V
SUB 7V

IC6501
MCZ3001D
DRIVER
Q6503
2SD601A
R6646 330k :RN
R6514 330k :RN
R6513 330k :RN
R6517 8.2k :RN-CP
C6511 0.01 B:CHIP
R6504 10k :CHIP
C6504 0.01 B:CHIP
C6518 0.001 :PP
R6518 15k :RN-CP
R6541 15k :CHIP
R6543 330k :RN-CP
R6552 22k :CHIP
R6553 330k :CHIP
C6519 10
C6517 4.7
C6507 47
C6516 0.001 B:CHIP
R6503 100 :RN-CP
R6501 91 :RN-CP
C6510 0.1 :PT
D6507 0 :CHIP

1 VSENSE
2 F/B.
3 CT
4 RT
5 GND
6 TIMER
7 SS
8 VC1
9 OCP
10 VC2
11 P-GND
12 VG(L)
13
14 VB
15 VS
16 VG(H)
17
18 VD

5 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28




I
J
K
L
M
N
NORMAL 6
E 7
WP 8
W.P
CN6504
8P
TO A BOARD
CN3170
TO A BOARD
CN6001
CN6505
8P
STBY 5V 8
E 7
MAIN 12V 6
MAIN 5V 5
E 4
MAIN 9V 3
E 2
33V 1
STBY 5V
STBY5V
MAIN 12V
MAIN12V
MAIN 9V
MAIN 5V
MAIN5V
MAIN9V
33V
CN6506
8P
TO A BOARD
CN3171
CLK0/B CLK 1
DAT0/B DAT 2
E 3
PROT1 4
NVM5V 5
E 6
OVP 7
+B OCP 8
CLK0/B CLK
DAT0/B DAT
NVM5V
P-SW(-)
MAIN RLY
AC RLY
R6528 100 :CHIP
R6509 4.7k :CHIP
R6530 4.7k :CHIP
R6532 10k :CHIP
Q6527 2SD2114 AC-RLY-DRV
Q6530 2SB709A LATCH-2
Q6532 2SD601A LATCH-1
R6538 10k :CHIP
C6596 1
R6537 10k :CHIP
200V-OCP
D6501 MA111
D6537 MA111
+B OCP
200V-OCP
R6506 0.47 :FPRD
R6550 4.7k :CHIP
R6527 68k :CHIP
C6595 100 25V
R6508 10k :CHIP
R6523 22k :CHIP
Q6526 2SB709A LATCH
C6594 0.1 25V B:CHIP
Q6529 2SD601A LATCH
R6534 33k :CHIP
R6511 10k :CHIP
Q6528 2SD601A VC-SW-2

R6583
15k
:CHIP

C6551
0.022
B:CHIP

SE-140N
+B OVP

R6593
100
:FPRD

Q6522
2SA1309A
OVP SW

R6539
22k
3W
:RS

D6508
MTZJ-33C

PH6503
ON3171-R
MAIN SW

R6540
1k
:CHIP

R6522
10k
:CHIP

Q6531
2SD601A
MAIN-SW

R6536
10k
:CHIP

R6512
10k
:CHIP

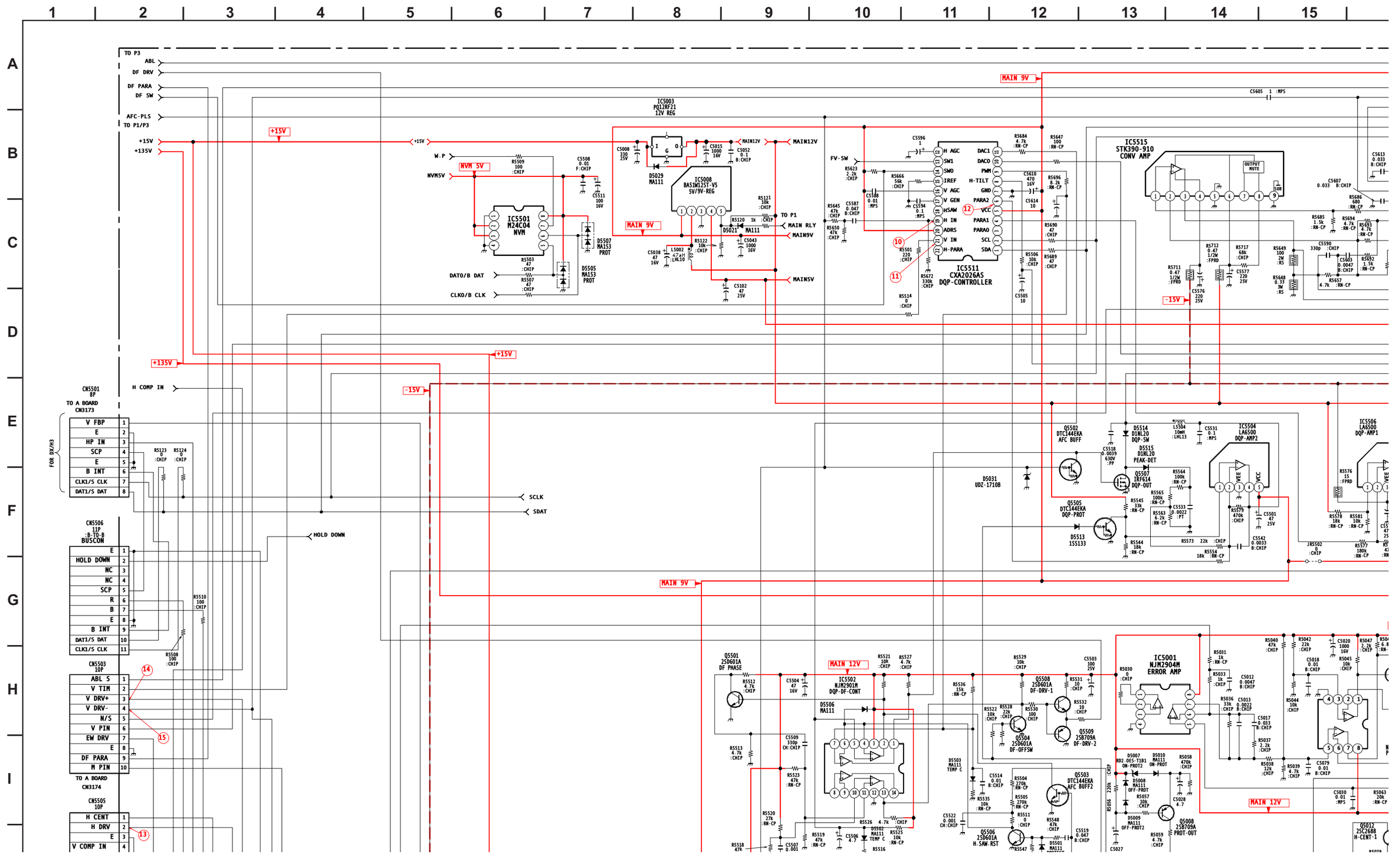
STBY 5V

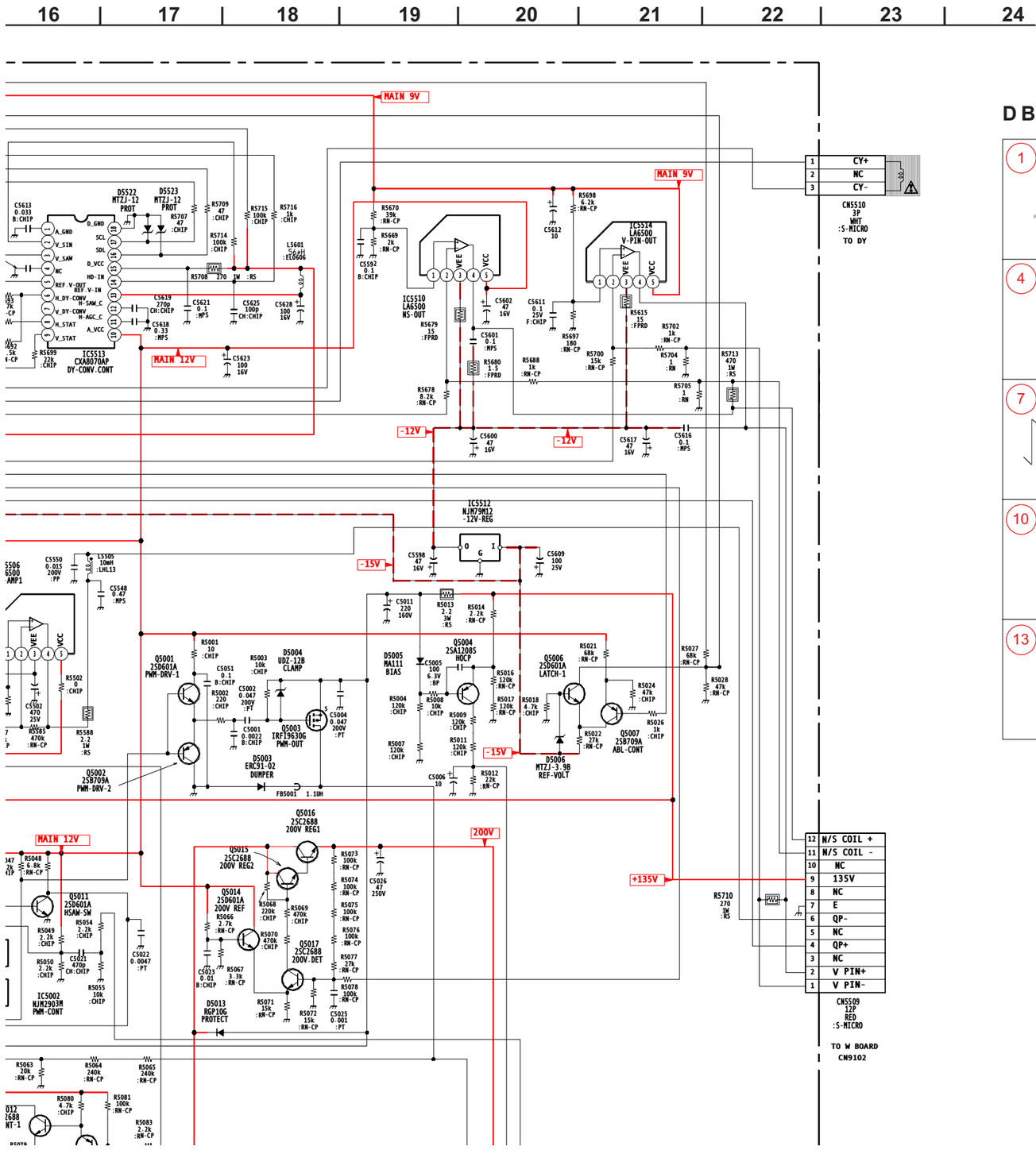
33V

33V

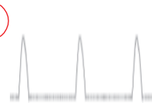
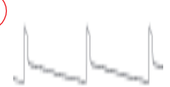
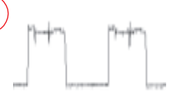
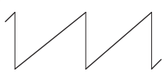
+B OCP

D BOARD SCHEMATIC DIAGRAM (2 OF 3)





D BOARD WAVEFORMS

1 12 Vp-p (H)	2 152.4 Vp-p (H)	3 12.8Vp-p (H)
4  1.0 KVp-p (H)	5 8.0 Vp-p (V)	6  60.2 Vp-p (V)
7 7.3 Vp-p (V)	8 1.9 Vp-p (V)	9 94.6 Vp-p (H)
10 1.3 Vp-p (H)	11 5.1 Vp-p (V)	12 2.0 Vp-p (H)
13  2.9 Vp-p (H)	14 1.7 Vp-p (V).	15  1.5 Vp-p (V)

J

K

L

M

N

O

P

E	3
V COMP IN	4
H COMP IN	5
E	6
V PROT	7
H PROT	8
R	9
B	10

TO A BOARD CN3103

CAUTION !

IC5004 HEAT SINK IS -15V CARE MUST BE TAKEN NOT TO ALLOW HEAT SINK TO TOUCH ANY OTHER COMPONENTS

-15V

MAIN 9V

+15V

IC5007 NJM2901M H-PROT-CONT1

IC5004 STV9379 V-OUT

T5002 :HDT

L5005 :HLC

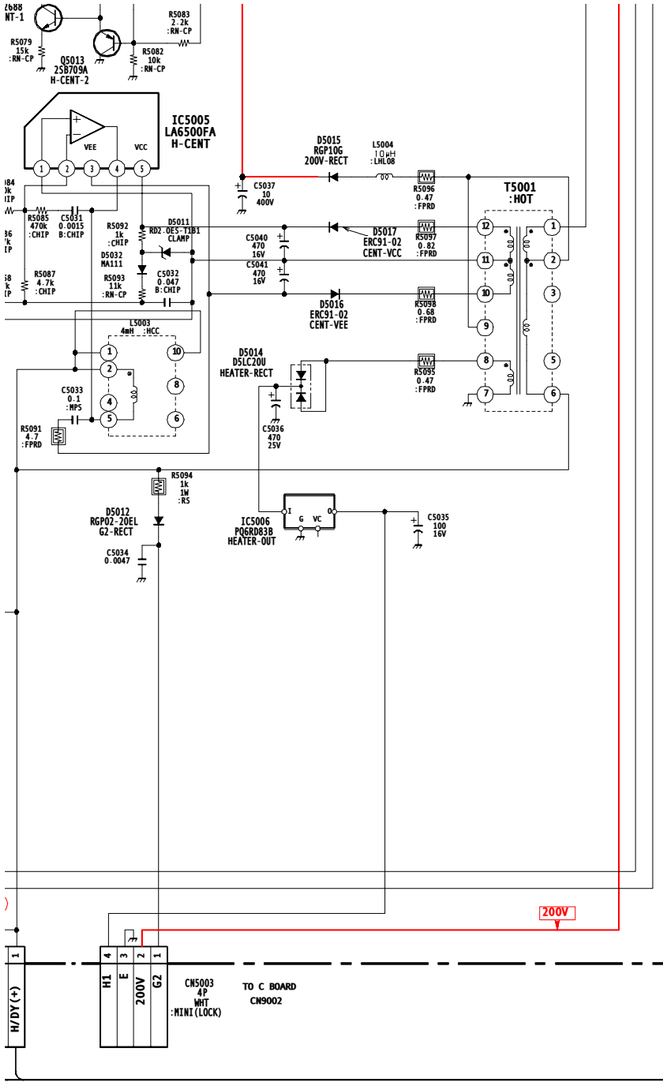
CN5002 6P :DY

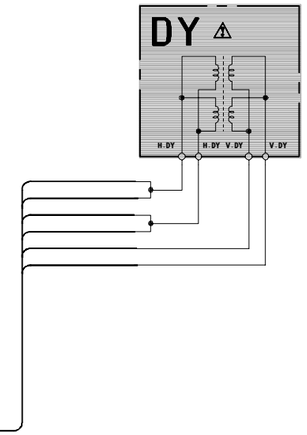
TO DY

V. DY (+)
V. DY (-)
H. DY (-)
H. DY (+)
H/DY (+)
H/DY (-)

D (2/3)

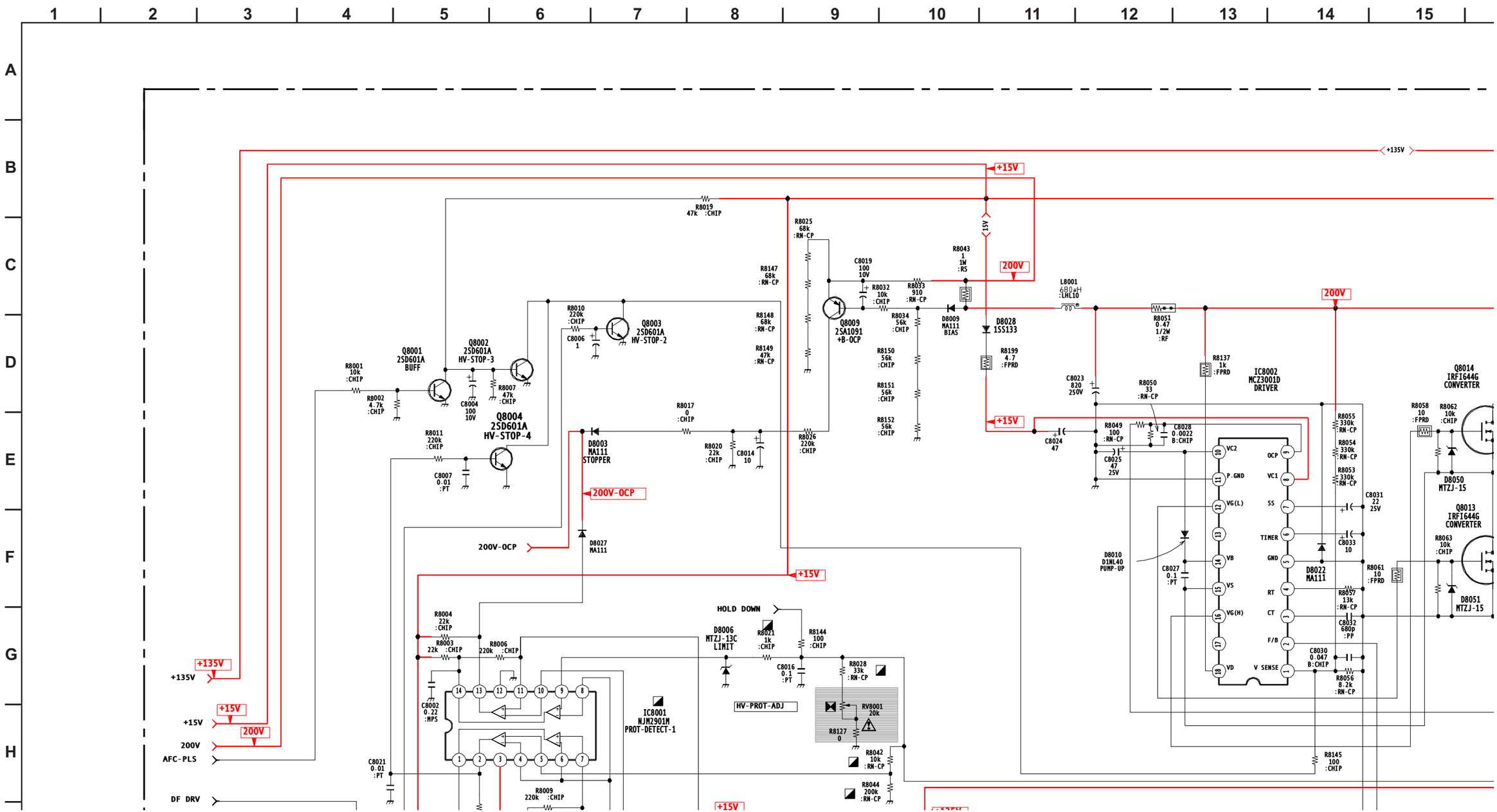
H/V DRIVE
H/V DY

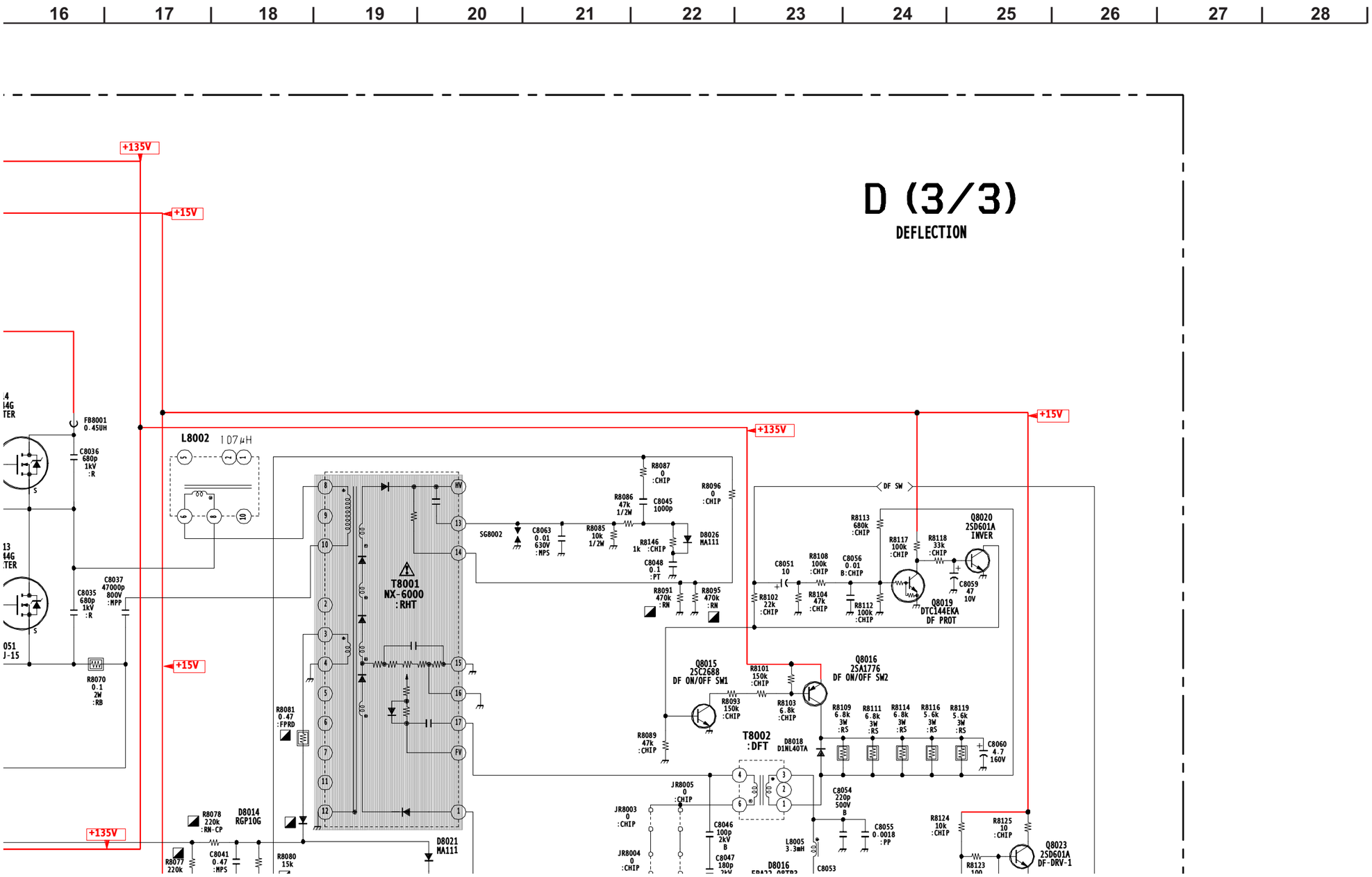


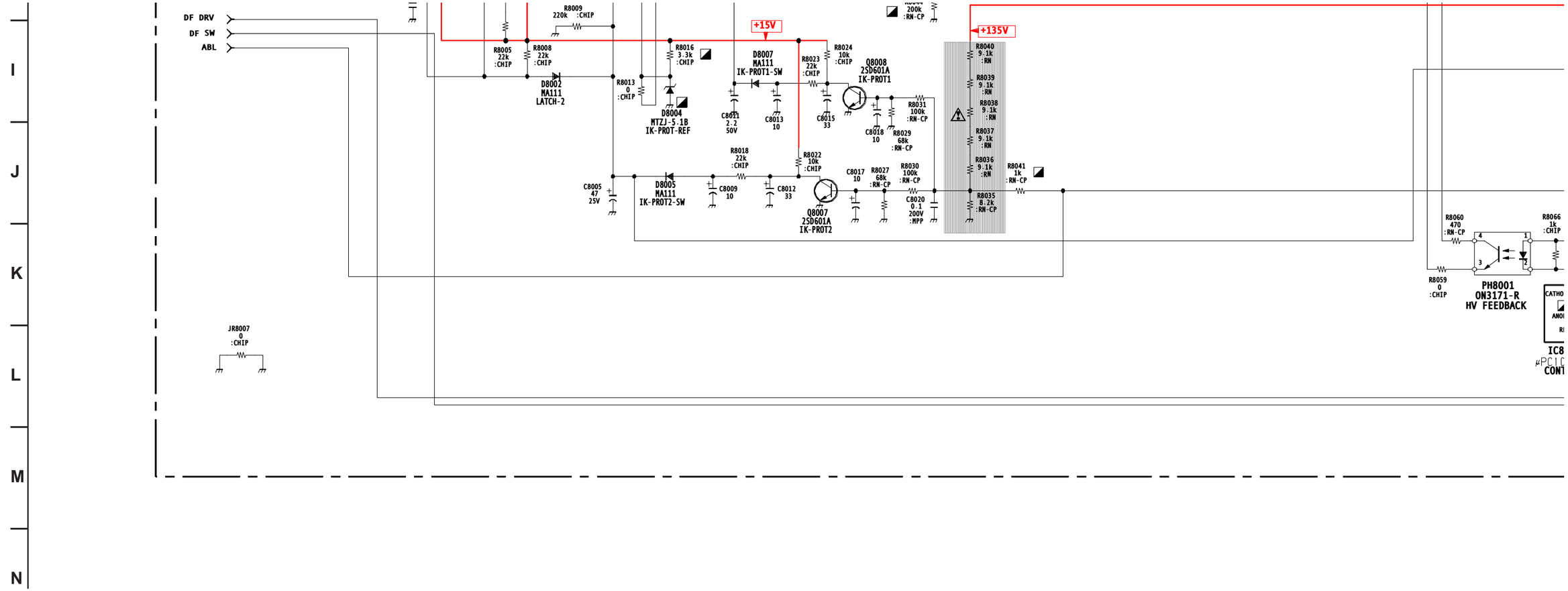


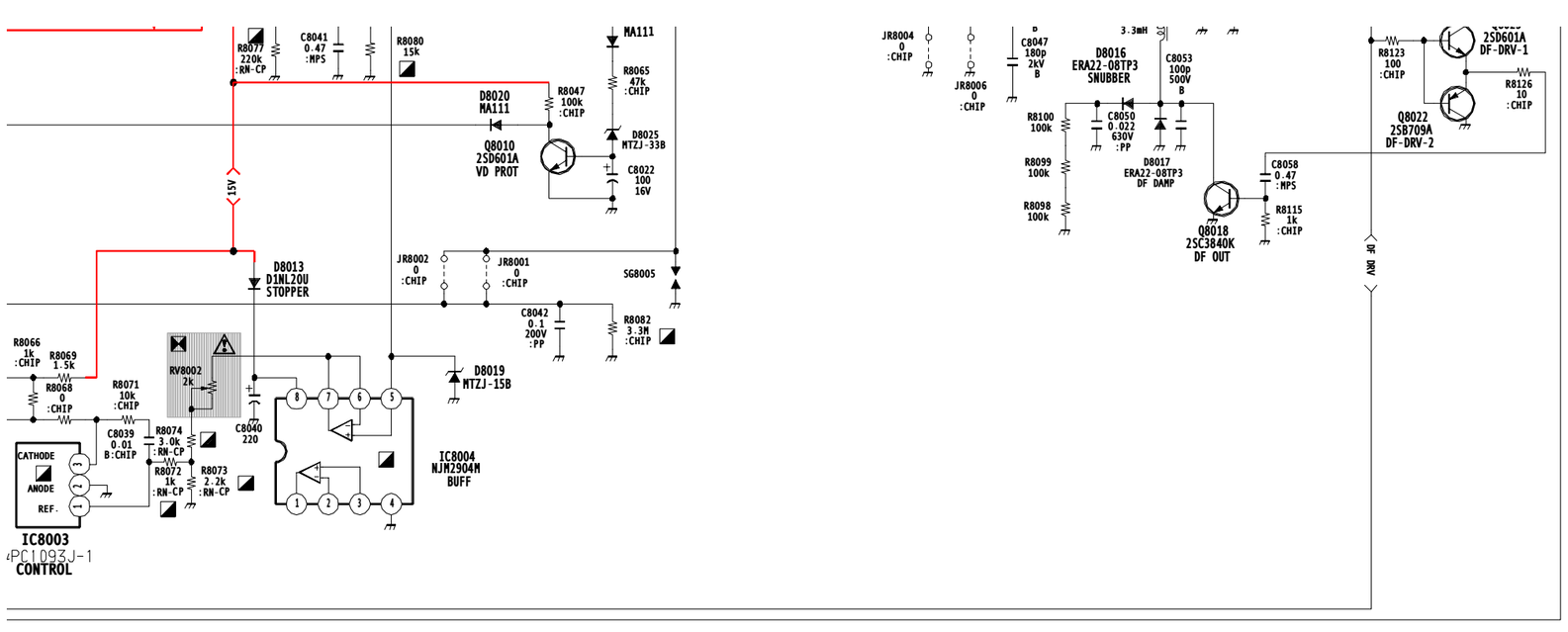
9-965-916-02<HA3>D P2

D BOARD SCHEMATIC DIAGRAM (3 OF 3)

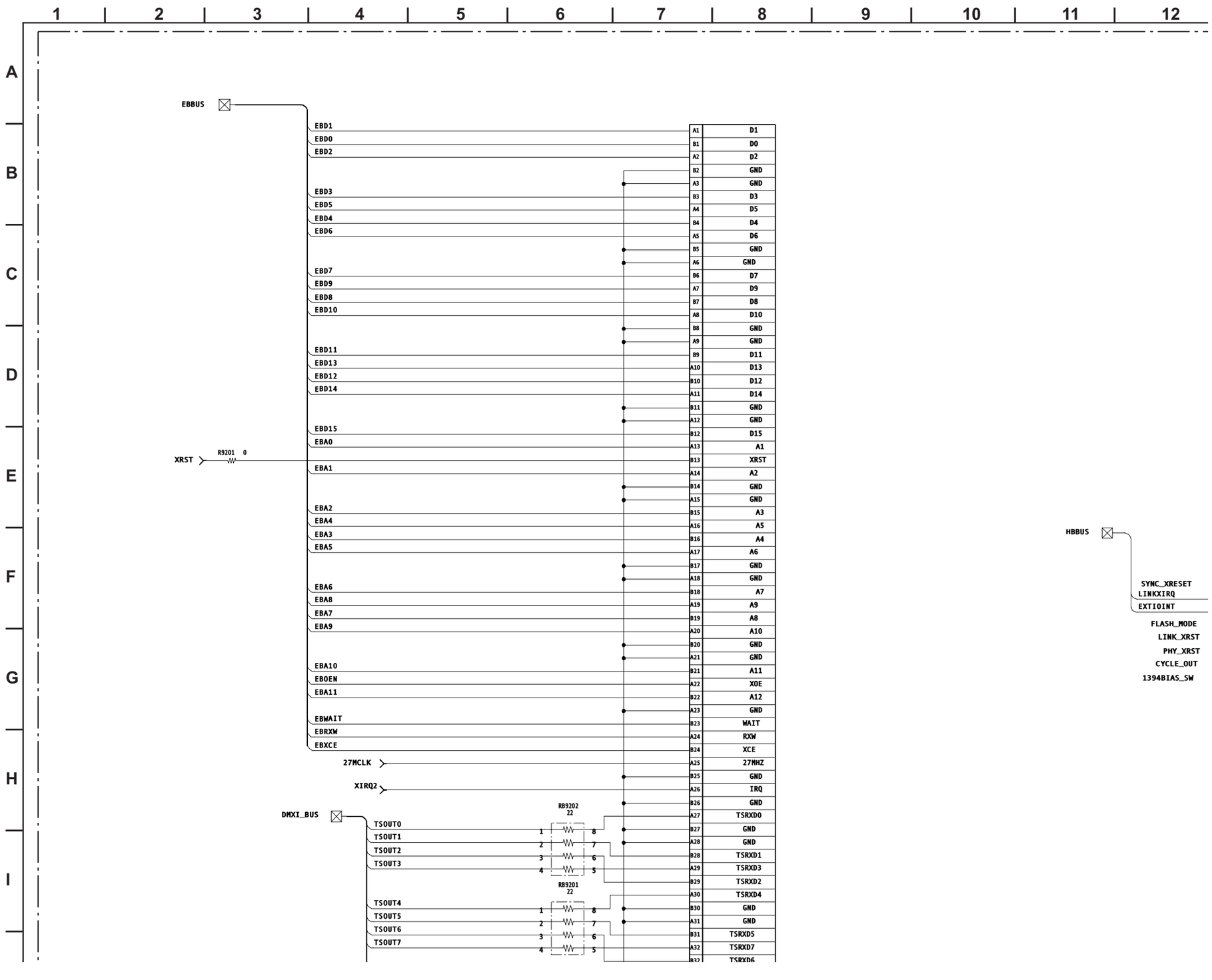


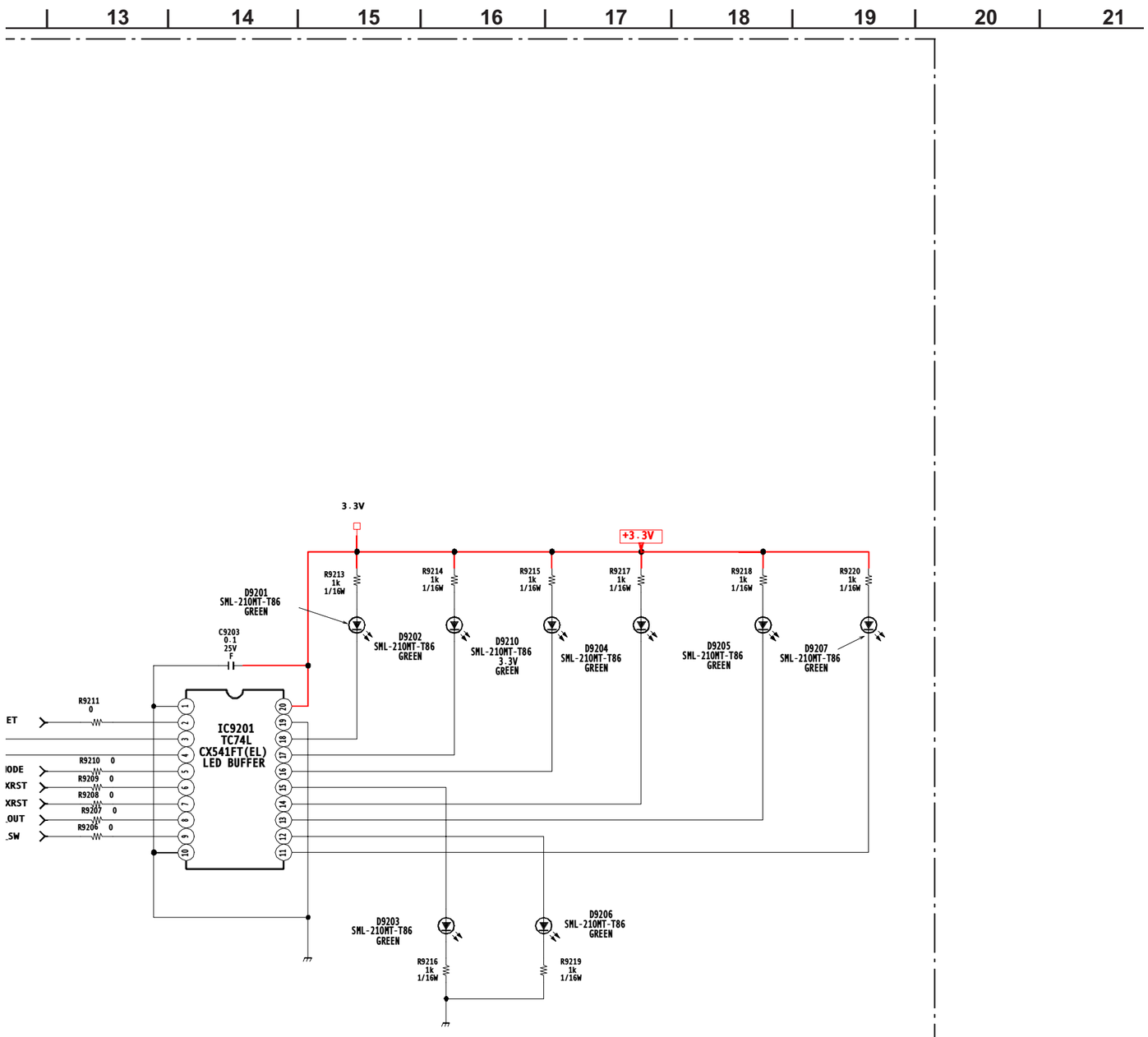

16
17
18
19
20
21
22
23
24
25
26
27
28
D (3/3)
DEFLECTION
+135V
+15V
L8002 107μH
T8001
NX-6000
:RHT
T8002
:DFT
D8018
D1NL40TA
Q8015
2SC2688
DF ON/OFF SW1
Q8016
2SA1776
DF ON/OFF SW2
Q8020
2SD601A
INVER
Q8019
DTC144EKA
DF PROT
Q8023
2SD601A
DF-DRV-1
DF SW
FB8001
0.45UH
C8036
680p
1kV
:R
C8035
680p
1kV
:R
C8037
47000p
800V
:MPP
R8070
0.1
2W
:RB
R8081
0.47
:FPRD
R8078
220k
:RN-CP
D8014
RGP10G
R8077
220k
C8041
0.47
:MPS
R8080
15k
D8021
MA111
SG8002
C8063
0.01
630V
:MPS
R8085
10k
1/2W
R8086
47k
1/2W
R8087
0
:CHIP
C8045
1000p
R8096
0
:CHIP
R8146
1k
:CHIP
D8026
MA111
C8048
0.1
:PT
R8091
470k
:RN
R8095
470k
:RN
R8089
47k
:CHIP
R8093
150k
:CHIP
R8101
150k
:CHIP
R8103
6.8k
:CHIP
R8109
6.8k
3W
:RS
R8111
6.8k
3W
:RS
R8114
6.8k
3W
:RS
R8116
5.6k
3W
:RS
R8119
5.6k
3W
:RS
C8060
4.7
160V
C8054
220p
500V
B
C8055
0.0018
:PP
L8005
3.3mH
C8053
JR8005
0
:CHIP
JR8003
0
:CHIP
JR8004
0
:CHIP
C8046
100p
2kV
B
C8047
180p
R8113
680k
:CHIP
R8117
100k
:CHIP
R8118
33k
:CHIP
C8051
10
R8108
100k
:CHIP
C8056
0.01
B:CHIP
R8102
22k
:CHIP
R8104
47k
:CHIP
R8112
100k
:CHIP
C8059
47
10V
R8124
10k
:CHIP
R8125
10
:CHIP
R8123
100

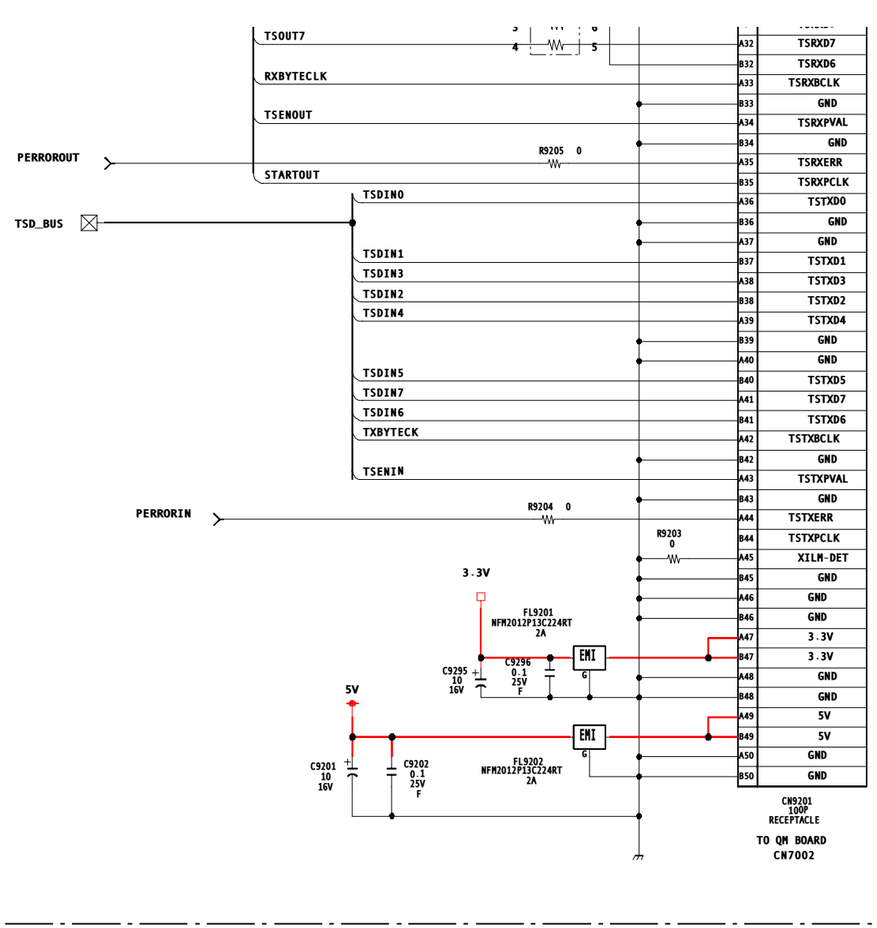

I
J
K
L
M
N
DF DRV
DF SW
ABL
R8009
220k :CHIP
R8005
22k
:CHIP
R8008
22k
:CHIP
D8002
MA111
LATCH-2
R8013
0
:CHIP
R8016
3.3k
:CHIP
D8004
MTZJ-5.1B
IK-PROT-REF
+15V
D8007
MA111
IK-PROT1-SW
C8011
2.2
50V
C8013
10
R8023
22k
:CHIP
R8024
10k
:CHIP
Q8008
2SD601A
IK-PROT1
C8015
33
C8018
10
R8029
68k
:RN-CP
R8031
100k
:RN-CP
R8047
200k
:RN-CP
+135V
R8040
9.1k
:RN
R8039
9.1k
:RN
R8038
9.1k
:RN
R8037
9.1k
:RN
R8036
9.1k
:RN
R8035
8.2k
:RN-CP
R8041
1k
:RN-CP
R8018
22k
:CHIP
C8005
47
25V
D8005
MA111
IK-PROT2-SW
C8009
10
C8012
33
R8022
10k
:CHIP
Q8007
2SD601A
IK-PROT2
C8017
10
R8027
68k
:RN-CP
R8030
100k
:RN-CP
C8020
0.1
200V
:MPP
JR8007
0
:CHIP
R8060
470
:RN-CP
R8066
1k
:CHIP
R8059
0
:CHIP
PH8001
ON3171-R
HV FEEDBACK
CATHO
ANOI
RI
IC8
μPC1
CONT


R8077 220k :RN-CP
C8041 0.47 :MPS
R8080 15k
MA111
R8065 47k :CHIP
R8047 100k :CHIP
D8020 MA111
D8025 MTZJ-33B
Q8010 2SD601A VD PROT
C8022 100 16V
15V
D8013 D1NL20U STOPPER
JR8002 0 :CHIP
JR8001 0 :CHIP
SG8005
C8042 0.1 200V :PP
R8082 3.3M :CHIP
D8019 MTZJ-15B
R8066 1k :CHIP
R8069 1.5k
R8068 0 :CHIP
R8071 10k :CHIP
RV8002 2k
C8040 220
C8039 0.01 B:CHIP
R8074 3.0k :RN-CP
R8072 1k :RN-CP
R8073 2.2k :RN-CP
CATHODE
ANODE
REF.
IC8003
CONTROL
IC8004 NJM2904M BUFF
JR8004 0 :CHIP
JR8006 0 :CHIP
C8047 180p 2kV B
D8016 ERA22-08TP3 SNUBBER
3.3mH
C8053 100p 500V B
R8100 100k
C8050 0.022 630V :PP
R8099 100k
D8017 ERA22-08TP3 DF DAMP
R8098 100k
Q8018 2SC3840K DF OUT
C8058 0.47 :MPS
R8115 1k :CHIP
DF ADV
R8123 100 :CHIP
2SD601A DF-DRV-1
R8126 10 :CHIP
Q8022 2SB709A DF-DRV-2

QI BOARD SCHEMATIC DIAGRAM (1 OF 4)




13
14
15
16
17
18
19
20
21
3.3V
+3.3V
R9213 1k 1/16W
R9214 1k 1/16W
R9215 1k 1/16W
R9217 1k 1/16W
R9218 1k 1/16W
R9220 1k 1/16W
D9201 SML-210MT-T86 GREEN
D9202 SML-210MT-T86 GREEN
D9210 SML-210MT-T86 3.3V GREEN
D9204 SML-210MT-T86 GREEN
D9205 SML-210MT-T86 GREEN
D9207 SML-210MT-T86 GREEN
C9203 0.1 25V F
R9211 0
IC9201 TC74L CX541FT(EL) LED BUFFER
R9210 0
R9209 0
R9208 0
R9207 0
R9206 0
ET
ODE
XRST
XRST
OUT
SW
D9203 SML-210MT-T86 GREEN
D9206 SML-210MT-T86 GREEN
R9216 1k 1/16W
R9219 1k 1/16W


TSOUT7
RXBYTECLK
TSENOUT
PERROROUT
R9205 0
STARTOUT
TSDIN0
TSD_BUS
TSDIN1
TSDIN3
TSDIN2
TSDIN4
TSDIN5
TSDIN7
TSDIN6
TXBYTECK
TSENIN
PERRORIN
R9204 0
R9203 0
3.3V
5V
FL9201 NFM2012P13C224RT 2A
FL9202 NFM2012P13C224RT 2A
C9295 10 16V
C9296 0.1 25V F
C9201 10 16V
C9202 0.1 25V F
EMI
EMI
A32 TSRXD7
B32 TSRXD6
A33 TSRXBCLK
B33 GND
A34 TSRXPVAL
B34 GND
A35 TSRXERR
B35 TSRXPCLK
A36 TSTXD0
B36 GND
A37 GND
B37 TSTXD1
A38 TSTXD3
B38 TSTXD2
A39 TSTXD4
B39 GND
A40 GND
B40 TSTXD5
A41 TSTXD7
B41 TSTXD6
A42 TSTXBCLK
B42 GND
A43 TSTXPVAL
B43 GND
A44 TSTXERR
B44 TSTXPCLK
A45 XILM-DET
B45 GND
A46 GND
B46 GND
A47 3.3V
B47 3.3V
A48 GND
B48 GND
A49 5V
B49 5V
A50 GND
B50 GND
CN9201 100P RECEPTACLE
TO QM BOARD CN7002

J

K

L

M

N

O

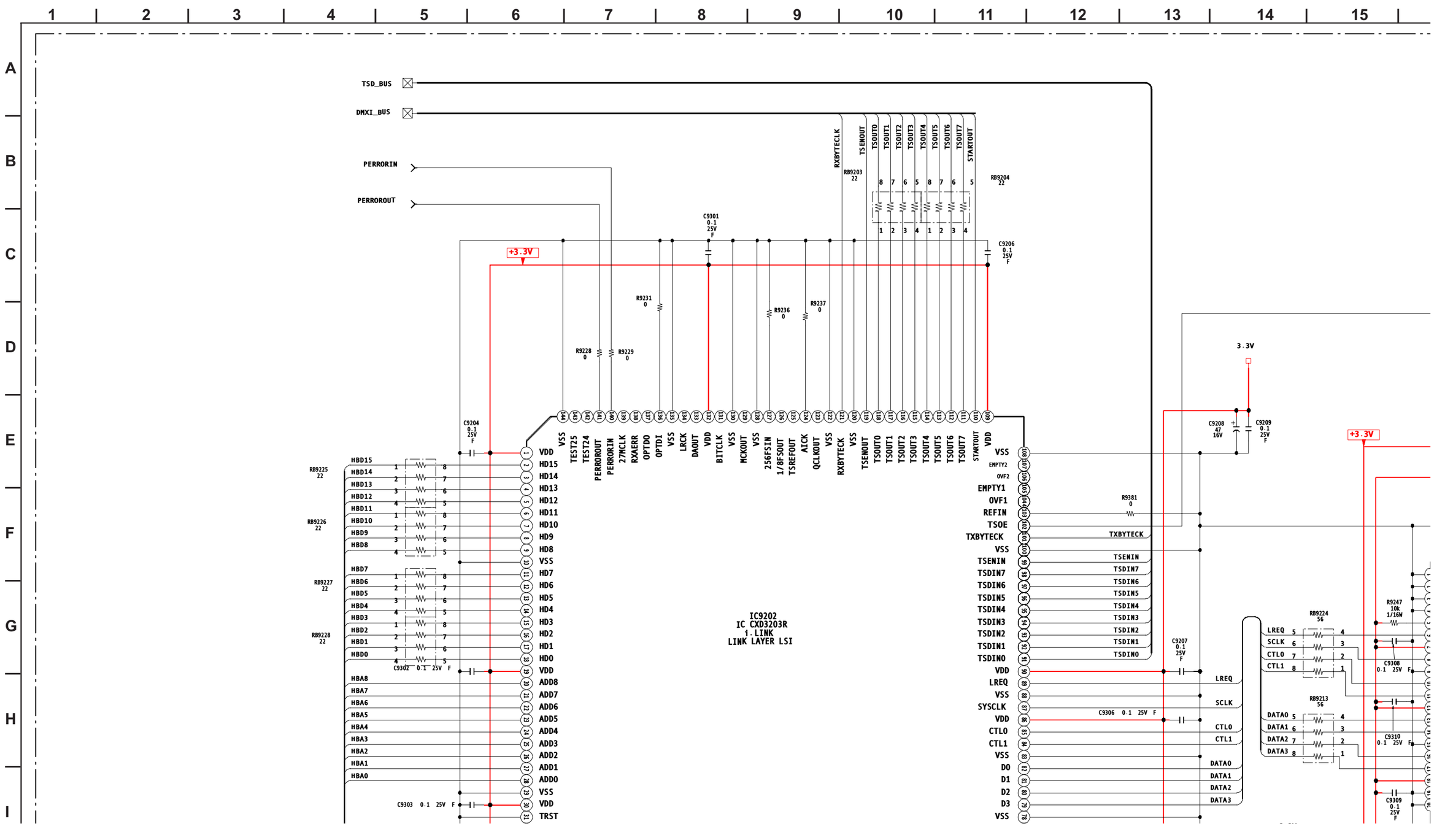
P

QI BOARD (1/4)

BOARD-TO-BOARD CONNECTOR

9-965-916-02<HA3>QI P1

QI BOARD SCHEMATIC DIAGRAM (2 OF 4)



16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28

R9379 0

TSOE

+3.3V

C9215 22 16V

C9307 0.1 25V F

R9250 10k 1/16W

C9216 0.1 25V F

IC9203
CXD1945R
i.LINK
PHYSICAL LAYER
IC

PC1 PC2 DVSS DVSS LPS LREQ DVDD SCLK DVSS CTL0 CTL1 DVDD D0 D1 DVSS D2 D3 DVDD DVSS DVSS

DVDD PCO CMC/LINK ON DIRECT TESTO TEST1 DVSS AVDD2 AVSS DVSS DVSS DVSS DVSS DVSS DVSS NC NC DVDD NC NC

TPAOP TPAON TPBOP TPBON TPA1P TPA1N TPB1P TPB1N TPA2P TPA2N TPB2P TPB2N TPBIAS0 TPBIAS1 TPBIAS2 AVDD1 AVSS CPS REXT VREF

R9272 56 1/16W

R9273 56 1/16W

FL9203 ACM2012-201-2P

CN9203

R9274 56 1/16W

R9276 56 1/16W

C9232 270p 50V CH

R9275 5.1k 1/16W

FL9204 ACM2012-201-2P

C9225 0.1 25V F

FL9205 ACM2012-201-2P

CN9204

FL9206 ACM2012-201-2P

R9263 56 1/16W

R9265 56 1/16W

R9266 56 1/16W

R9270 56 1/16W

C9227 0.1 25V F

C9228 270p 50V CH

R9269 5.1k 1/16W

C9223 0.1 25V F

C9297 0.1 25V F

R9258 1k 1/16W

R9260 470 1/16W

R9262 150 1/16W

R9256 10k 1/16W

C9224 0.01 25V B

R9271 47k 1/16W

D9208 MA152WA-TX

R9264 120 1/16W

C9230 1000 50V

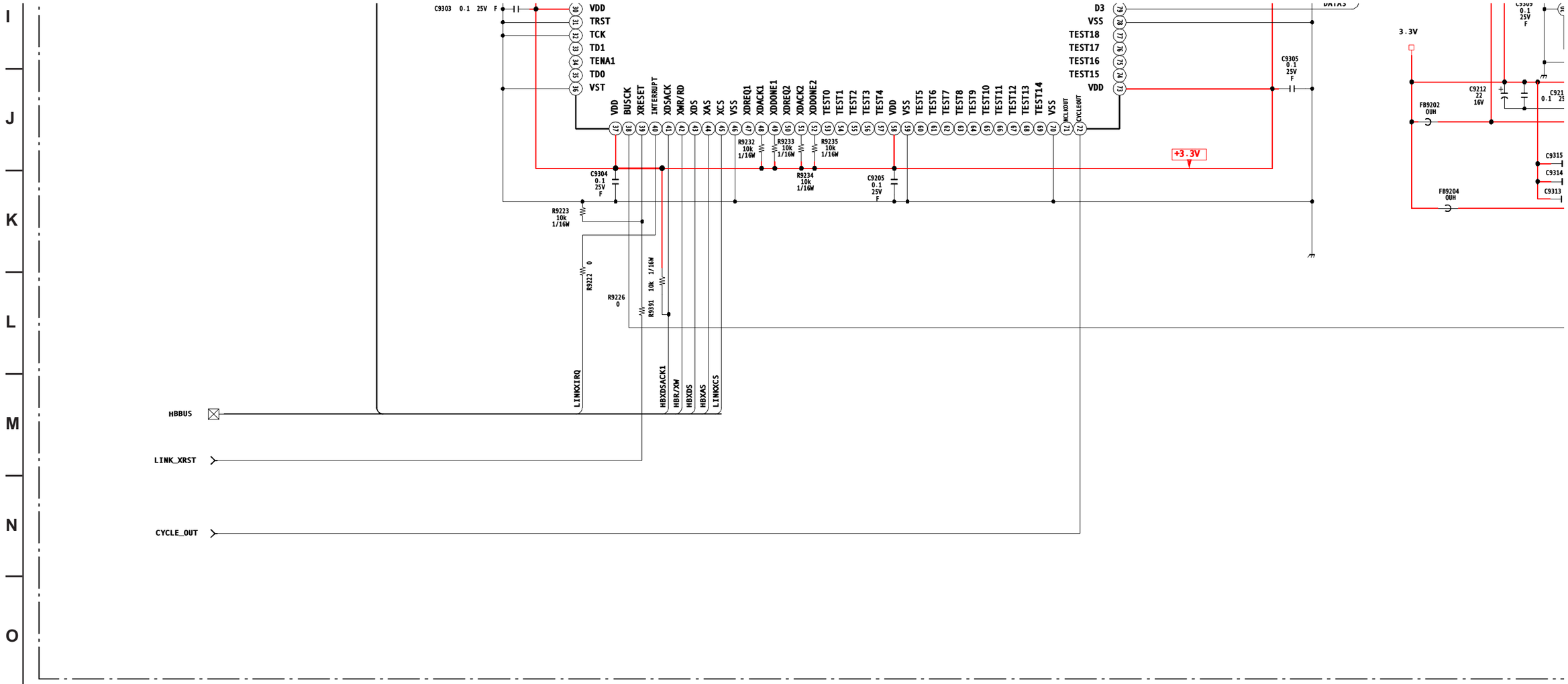
5V

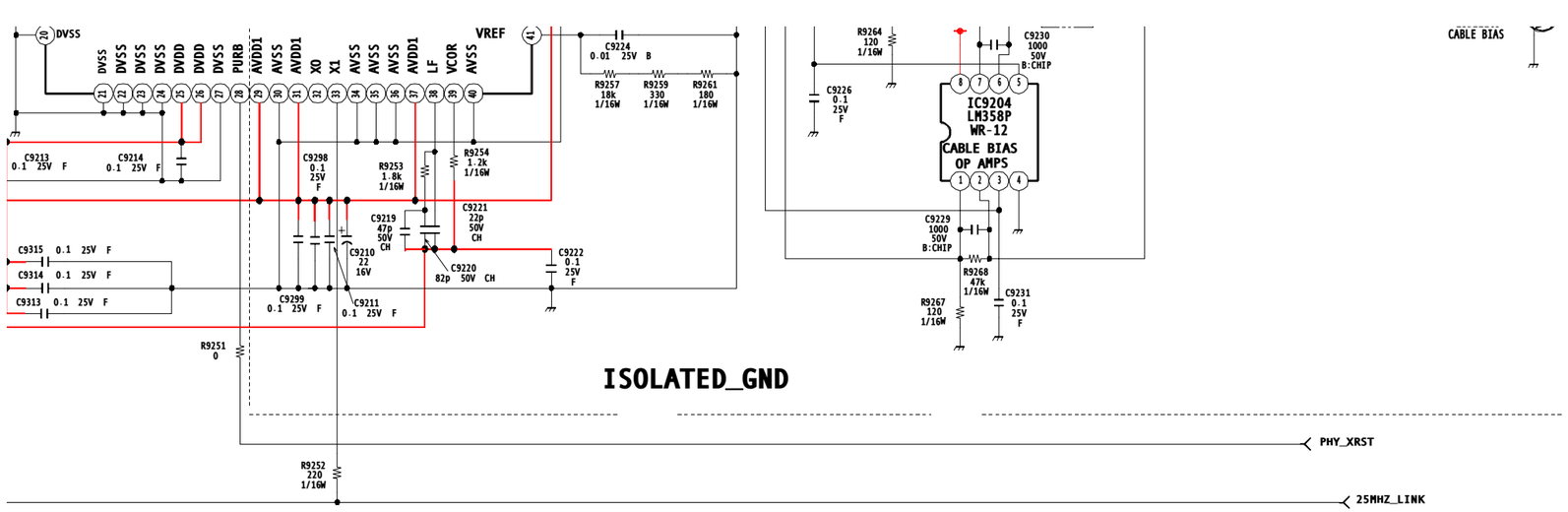
R9277 10k 1/16W

R9278 10k 1/16W

Q9201 2SD2216J CABLE BIAS

1394BIAS_SW

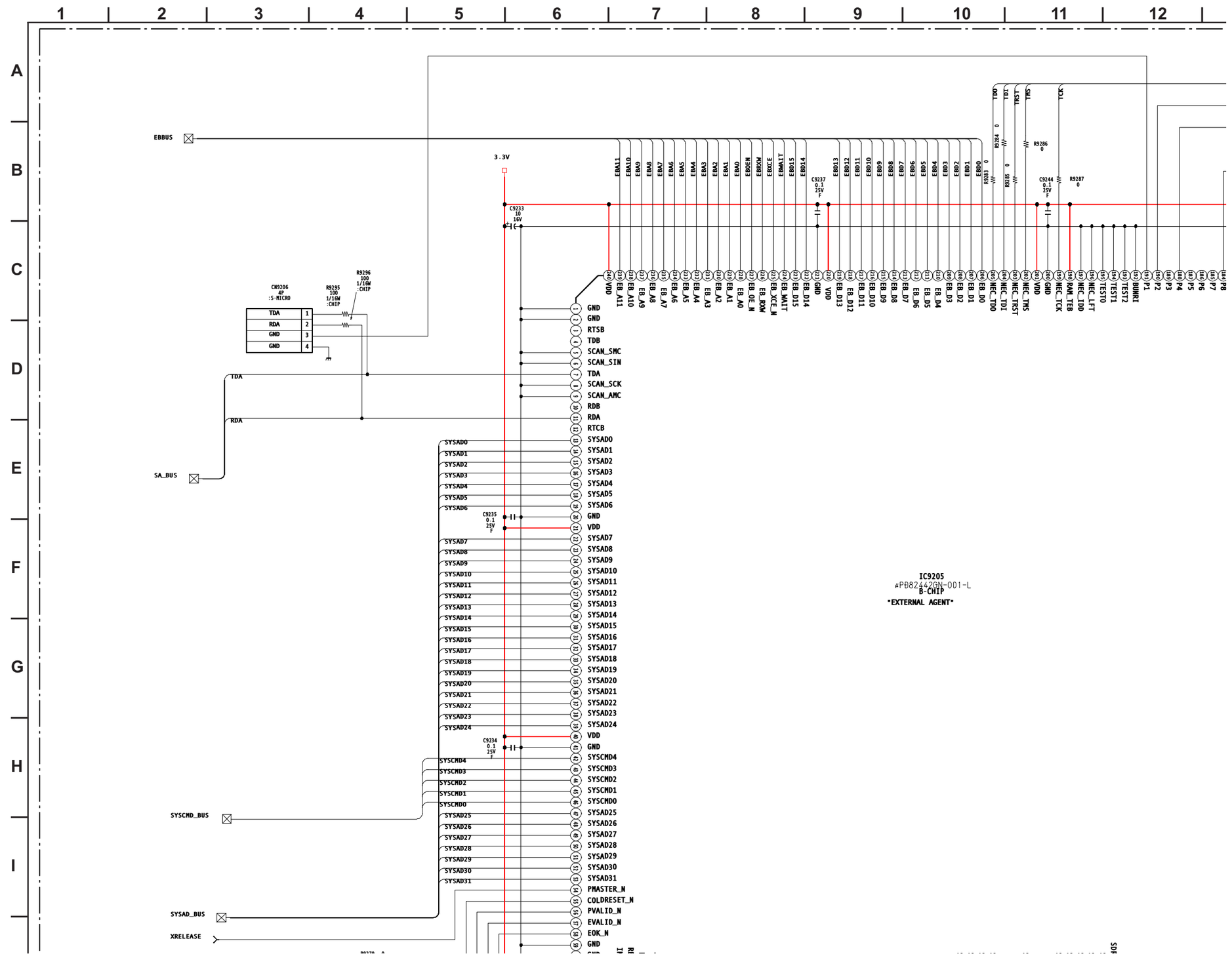

C9303 0.1 25V F
VDD
TRST
TCK
TD1
TENA1
TDO
VST
VDD BUSCK XRESET INTERRUPT XOSACK XWR/RD XDS XAS XCS VSS XOREQ1 XOACK1 XDDONE1 XOREQ2 XOACK2 XDDONE2 TEST0 TEST1 TEST2 TEST3 TEST4 VDD VSS TEST5 TEST6 TEST7 TEST8 TEST9 TEST10 TEST11 TEST12 TEST13 TEST14 VSS MCLKOUT CYCLEOUT
D3
VSS
TEST18
TEST17
TEST16
TEST15
VDD
C9305 0.1 25V F
C9304 0.1 25V F
C9205 0.1 25V F
R9232 10k 1/16W
R9233 10k 1/16W
R9235 10k 1/16W
R9234 10k 1/16W
+3.3V
R9223 10k 1/16W
R9222 0
R9226 0
R9391 10k 1/16W
LINKXIRQ
HBXDSACK1
HBR/XW
HBXDS
HBXAS
LINKXCS
HBBUS
LINK_XRST
CYCLE_OUT
3.3V
FB9202 0UH
FB9204 0UH
C9212 22 16V
C9315
C9314
C9313



QI BOARD (2/4)

LINK-AND-PHY

QI BOARD SCHEMATIC DIAGRAM (3 OF 4)



13 14 15 16 17 18 19 20 21

JTAG_BUS
TSOE
FLASH_MODE
LINK_XRST
PHY_XRST
XIRQ2

+3.3V
C9247 10 16V
R9382 10K 1/16W
C9246 0.1 25V F
C9245 0.1 25V F

GND
GND
P11
P12
P13
P14
P15
P00
TIMER_CLK
INTINRSV_N
INTIN0_N
INTIN1_N
INTIN2_N
HBSIZ0
HBSIZ1
HBDSACK0_N
HBDSACK1_N
HBCS0_N
HBCS1_N
GND
VDD
HBCS2_N
HBRW_N
ROMWE_N
ROMOE_N
ROMCE0_N
ROMCE1_N
ROMCE2_N
HBDS_N
GND
HBAS_N
HB_D15
HB_D14
HB_D13
HB_D12
HB_D11
HB_D10
HB_D9
HB_D8
HB_D7
VDD
GND
HB_D6
HB_D5
HB_D4
HB_D3
HB_D2
HB_D1
HB_D0
HB_A20
HB_A19
HB_A18
HB_A17
HB_A16
HB_A15
HB_A14
HB_A13
HB_A12
GND

1394BIAS_SW
R9293 1k 1/16W :CHIP

R9289 47k 1/16W

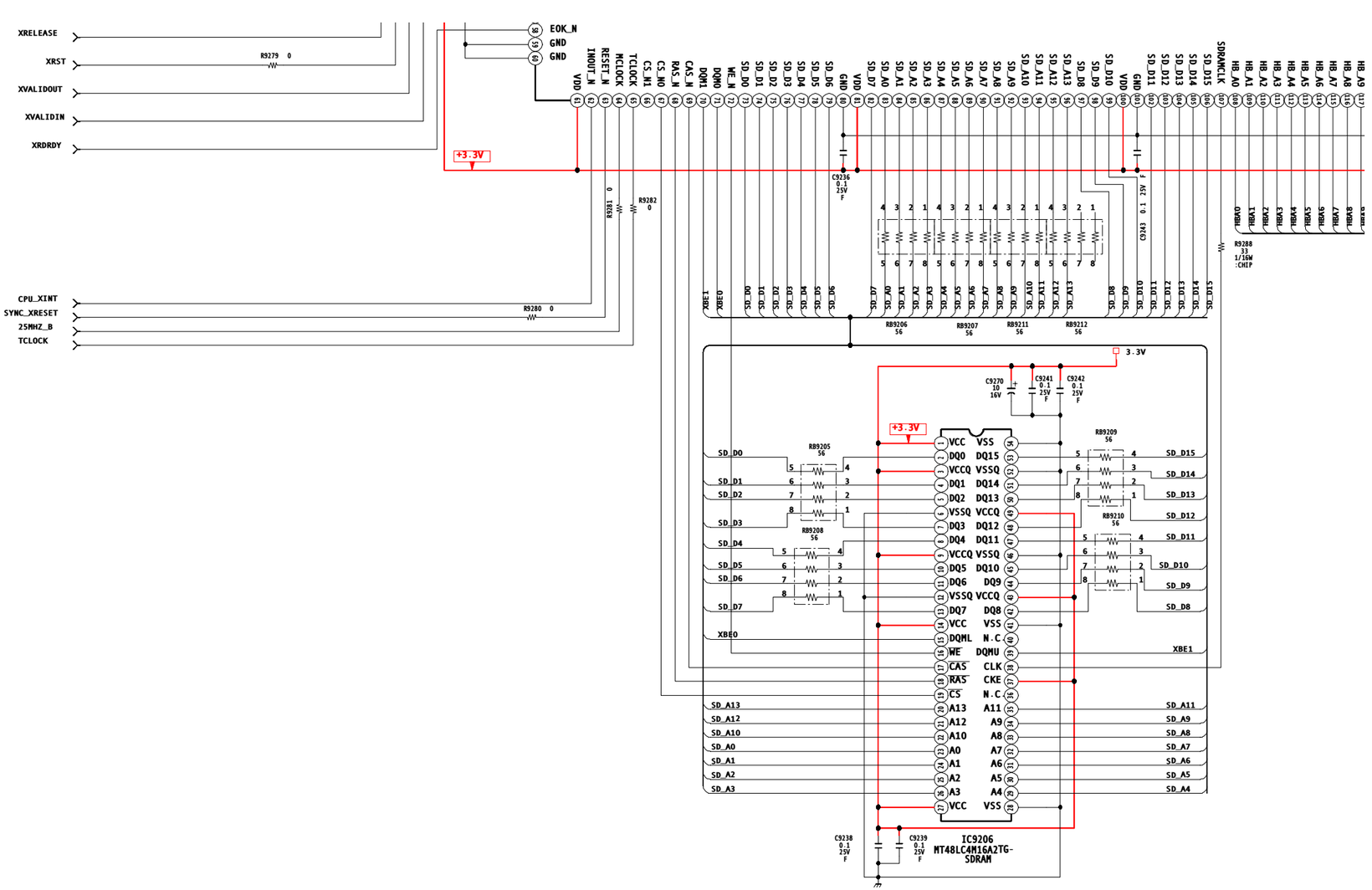
LINKXIRQ
EXTIOINT
PCIINT
HBSIZ0
HBSIZ1
HBXDSACK0
HBXDSACK1
LINKXCS
GAXCS
HBR/XW
ROMXWE
ROMXOE
ROMXCE
FLASHXCE0
FLASHXCE1
HBXDS
HBXAS
HBD15
HBD14
HBD13
HBD12
HBD11
HBD10
HBD9
HBD8
HBD7
HBD6
HBD5
HBD4
HBD3
HBD2
HBD1
HBD0
HBA20
HBA19
HBA18
HBA17
HBA16
HBA15
HBA14
HBA13
HBA12

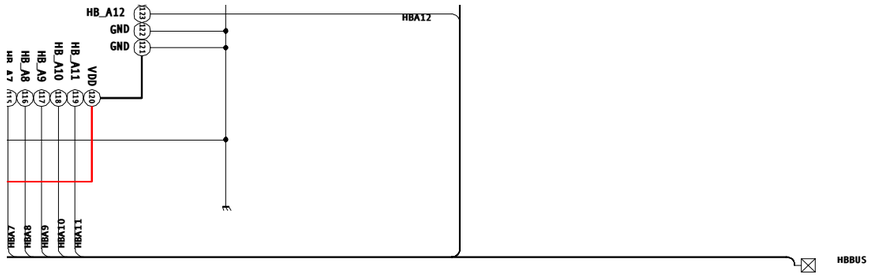
3.3V
C9249 0.1 25V F

IC9207
TC4069UBFT(EL.N)
TIMER
CLK INVERTERS

R9290 10M 1/16W
R9291 330k 1/16W
C9251 220p 50V CH
R9292 0
X9202 32.768KHz
C9248 22p 50V CH
C9250 22p 50V CH

ROM_BUS

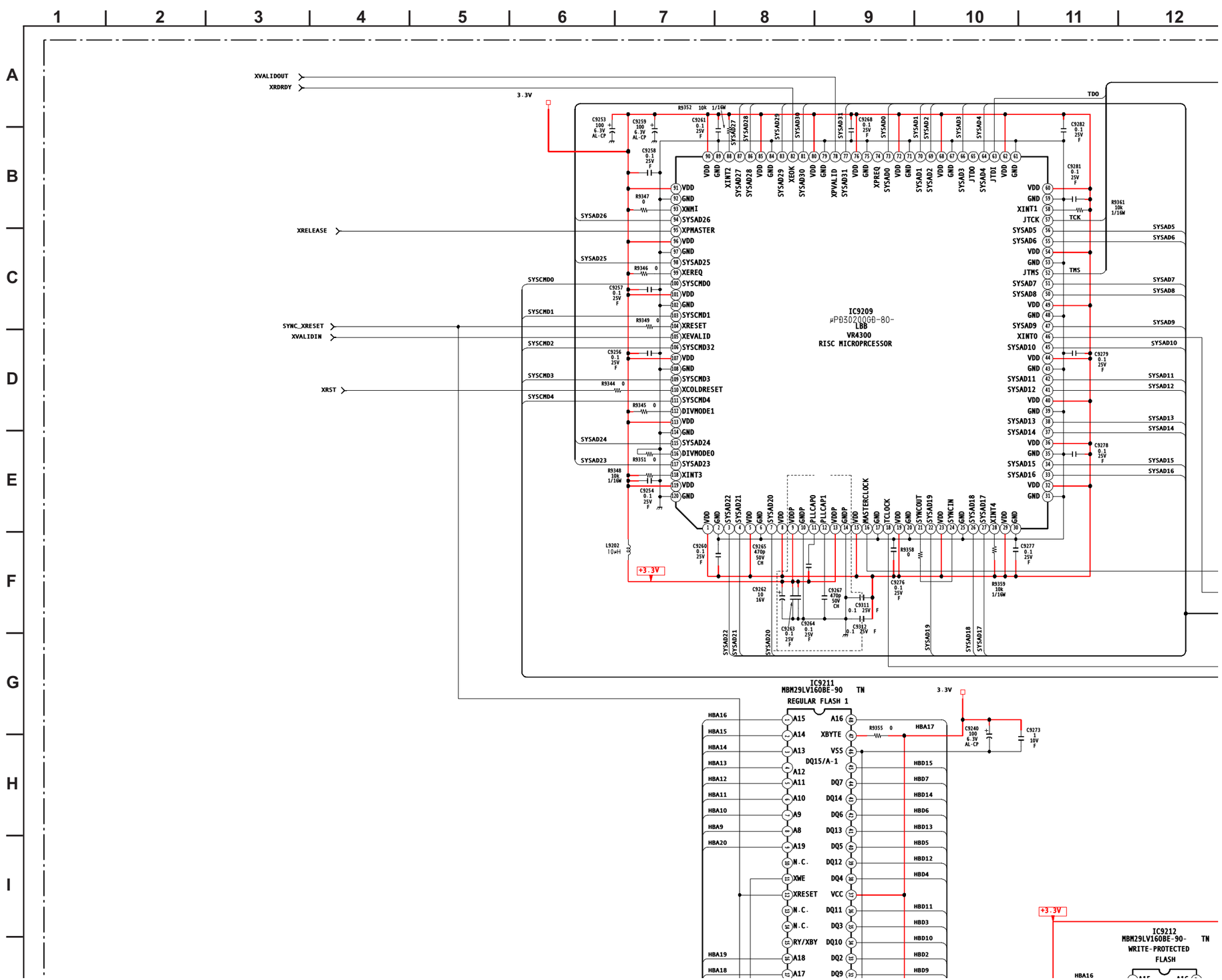

XRELEASE
XRST
XVALIDOUT
XVALIDIN
XRDRDY
R9279 0
EOK_N
GND
GND
+3.3V
C9236 0.1 25V F
C9243 0.1 25V F
R9288 33 1/10W :CHIP
R9281 0
R9282 0
R9280 0
CPU_XINT
SYNC_XRESET
25MHZ_B
TCLOCK
RB9206 56
RB9207 56
RB9211 56
RB9212 56
3.3V
C9270 10 16V
C9241 0.1 25V F
C9242 0.1 25V F
RB9205 56
RB9208 56
RB9209 56
RB9210 56
IC9206
MT48LC4M16A2TG-
SDRAM
C9238 0.1 25V F
C9239 0.1 25V F

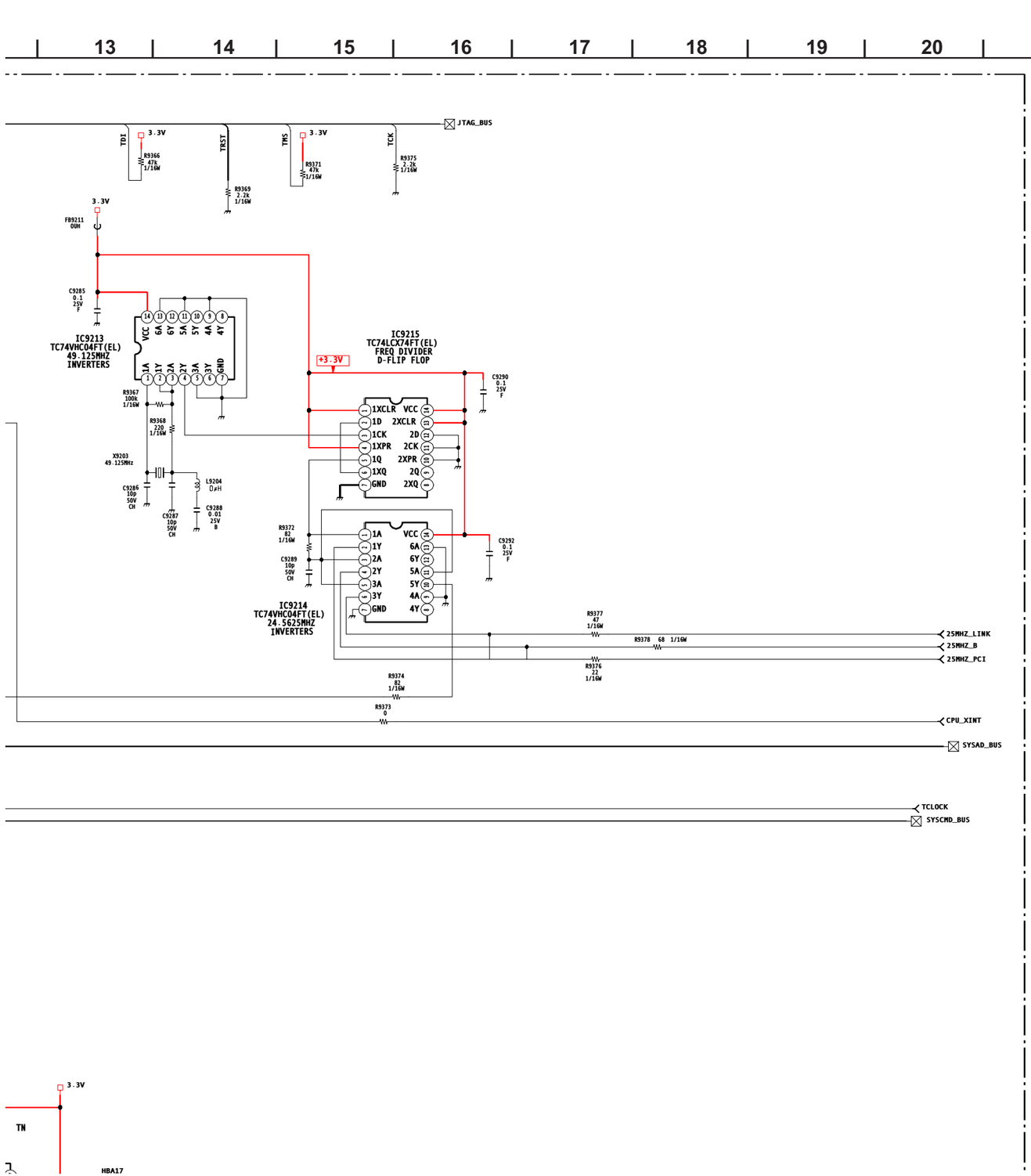


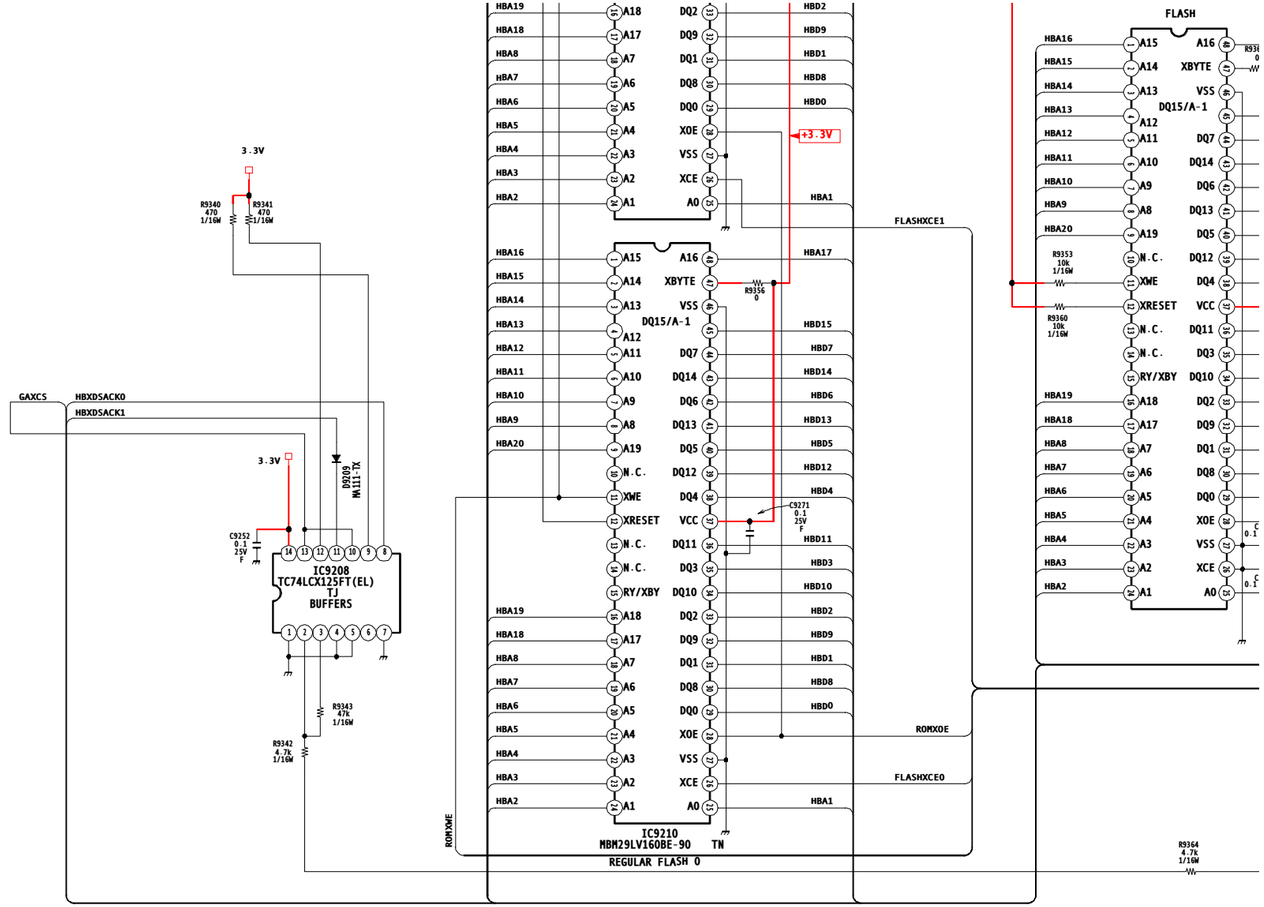
QI BOARD (3/4)

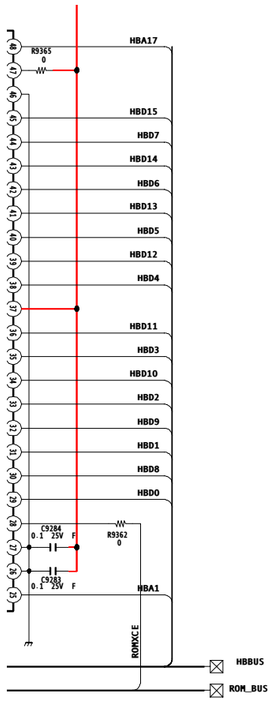
BCHIP-AND-SDRAM

QI BOARD SCHEMATIC DIAGRAM (4 OF 4)




13
14
15
16
17
18
19
20
21
JTAG_BUS
TDI
3.3V
R9366 47k 1/16W
TRST
R9369 2.2k 1/16W
TMS
3.3V
R9371 47k 1/16W
TCK
R9375 2.2k 1/16W
3.3V
FB9211 0UH
C9285 0.1 25V F
IC9213
TC74VHC04FT(EL)
49.125MHZ
INVERTERS
VCC 6A 6Y 5A 5Y 4A 4Y
1A 1Y 2A 2Y 3A 3Y GND
R9367 100k 1/16W
R9368 220 1/16W
X9203 49.125MHz
C9286 10p 50V CH
C9287 10p 50V CH
L9204 0uH
C9288 0.01 25V B
+3.3V
IC9215
TC74LCX74FT(EL)
FREQ DIVIDER
D-FLIP FLOP
1XCLR VCC
1D 2XCLR
1CK 2D
1XPR 2CK
1Q 2XPR
1XQ 2Q
GND 2XQ
C9290 0.1 25V F
R9372 82 1/16W
C9289 10p 50V CH
IC9214
TC74VHC04FT(EL)
24.5625MHZ
INVERTERS
1A VCC
1Y 6A
2A 6Y
2Y 5A
3A 5Y
3Y 4A
GND 4Y
C9292 0.1 25V F
R9377 47 1/16W
R9378 68 1/16W
R9376 22 1/16W
R9374 82 1/16W
R9373 0
25MHZ_LINK
25MHZ_B
25MHZ_PCI
CPU_XINT
SYSAD_BUS
TCLOCK
SYSCMD_BUS
3.3V
TN
HBA17


3.3V
R9340 470 1/16W
R9341 470 1/16W
GAXCS
HBXDSACK0
HBXDSACK1
3.3V
C9252 0.1 25V F
DSD09 MA111-TX
IC9208 TC74LCX125FT(EL) TJ BUFFERS
R9343 47K 1/16W
R9342 4.7K 1/16W
HBA19
HBA18
HBA8
HBA7
HBA6
HBA5
HBA4
HBA3
HBA2
HBA16
HBA15
HBA14
HBA13
HBA12
HBA11
HBA10
HBA9
HBA20
A18
A17
A7
A6
A5
A4
A3
A2
A1
A15
A14
A13
A12
A11
A10
A9
A8
A19
N.C.
XWE
XRESET
N.C.
N.C.
RY/XBY
DQ2
DQ9
DQ1
DQ8
DQ0
XOE
VSS
XCE
A0
DQ15/A-1
DQ7
DQ14
DQ6
DQ13
DQ5
DQ12
DQ4
VCC
DQ11
DQ3
DQ10
HBD2
HBD9
HBD1
HBD8
HBD0
HBD15
HBD7
HBD14
HBD6
HBD13
HBD5
HBD12
HBD4
HBD11
HBD3
HBD10
+3.3V
HBA1
HBA17
R9356 0
C9271 0.1 25V F
FLASHXCE1
ROMXOE
FLASHXCE0
IC9210 MBM29LV160BE-90 TN
REGULAR FLASH 0
FLASH
R9353 10K 1/16W
R9360 10K 1/16W
XBYTE
VSS
XRESET
VCC
R9364 4.7K 1/16W

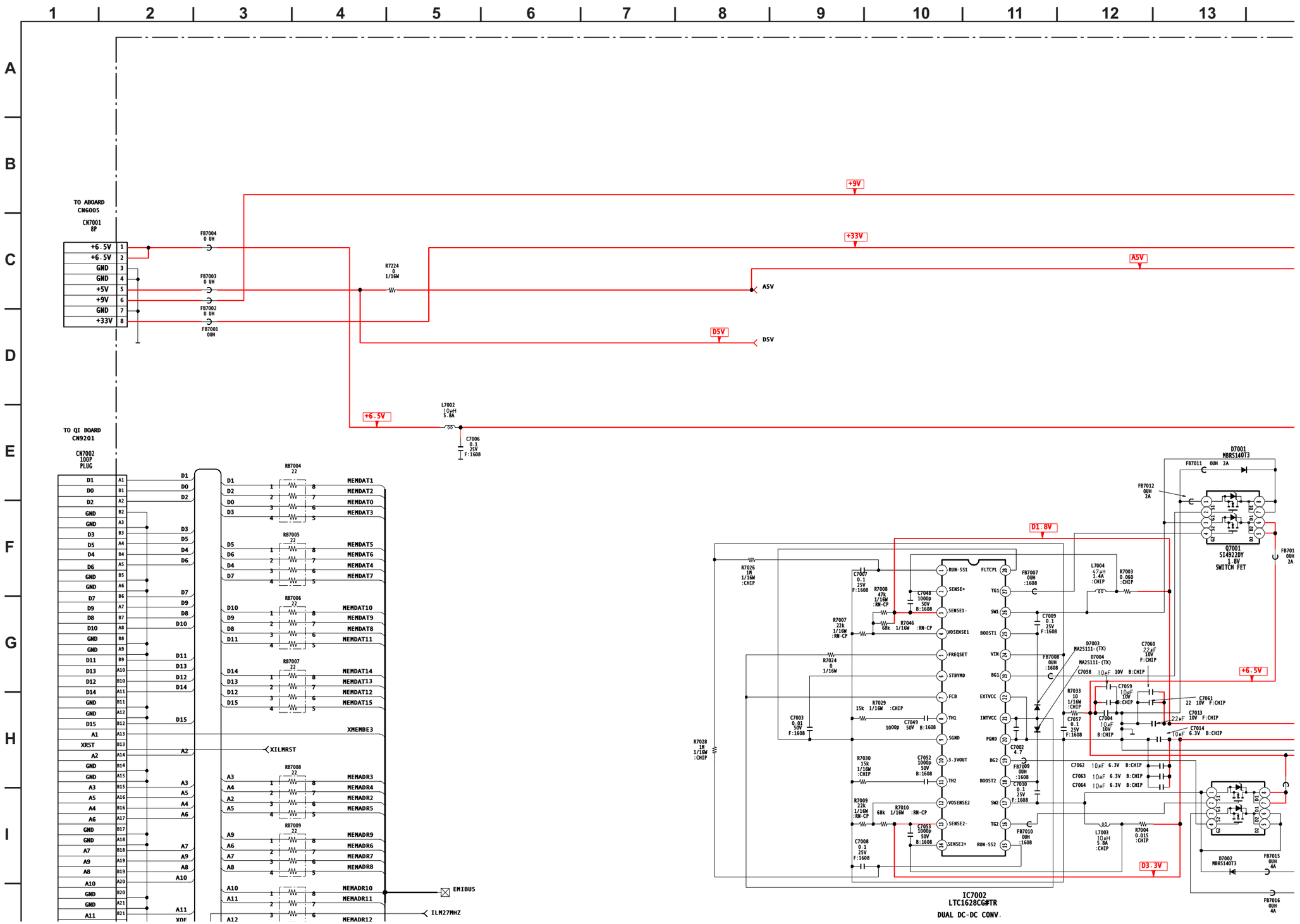


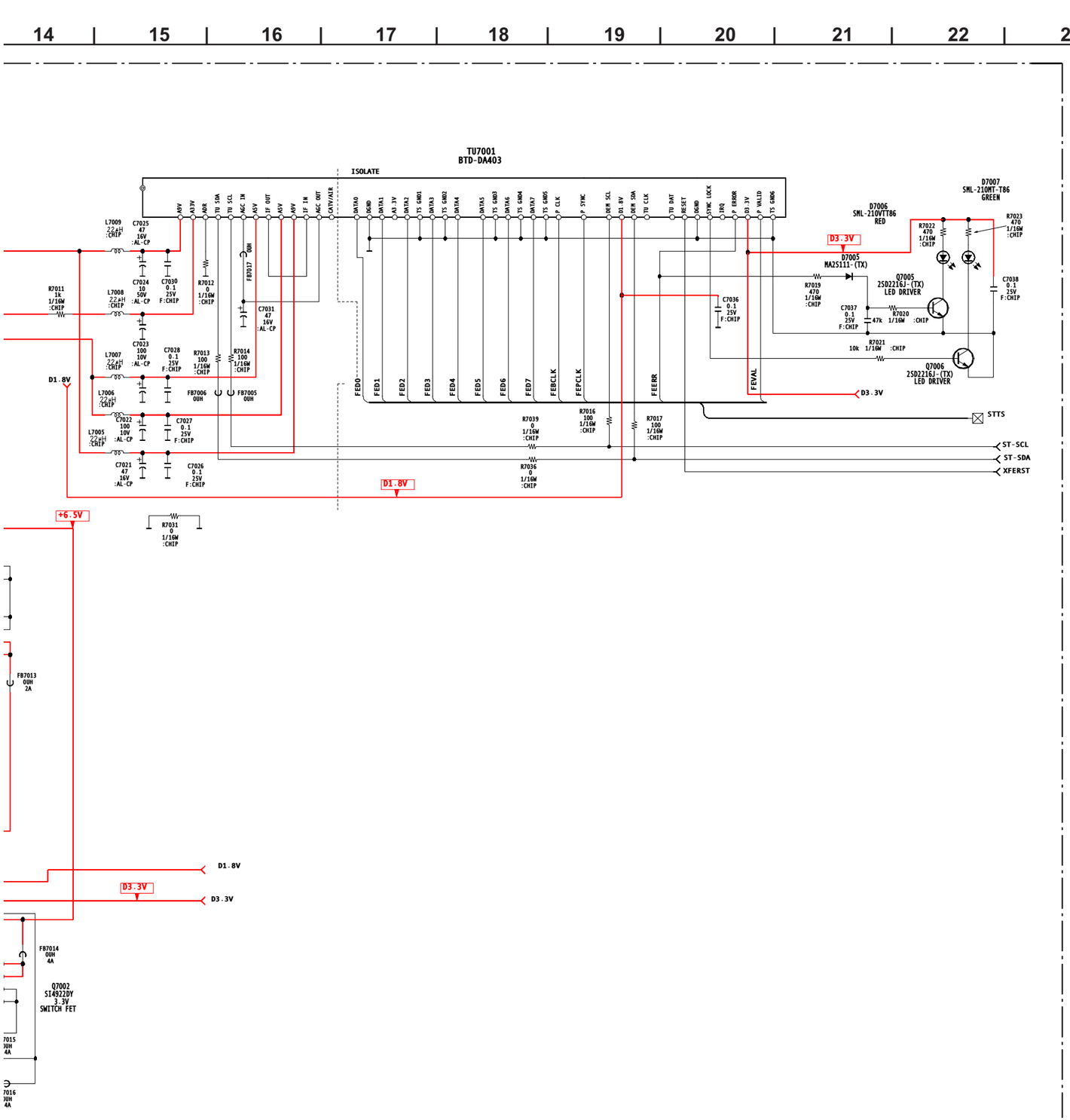
QI BOARD (4/4)

VR4300

FLASH-AND-PROM

QM BOARD SCHEMATIC DIAGRAM (1 OF 9)




14
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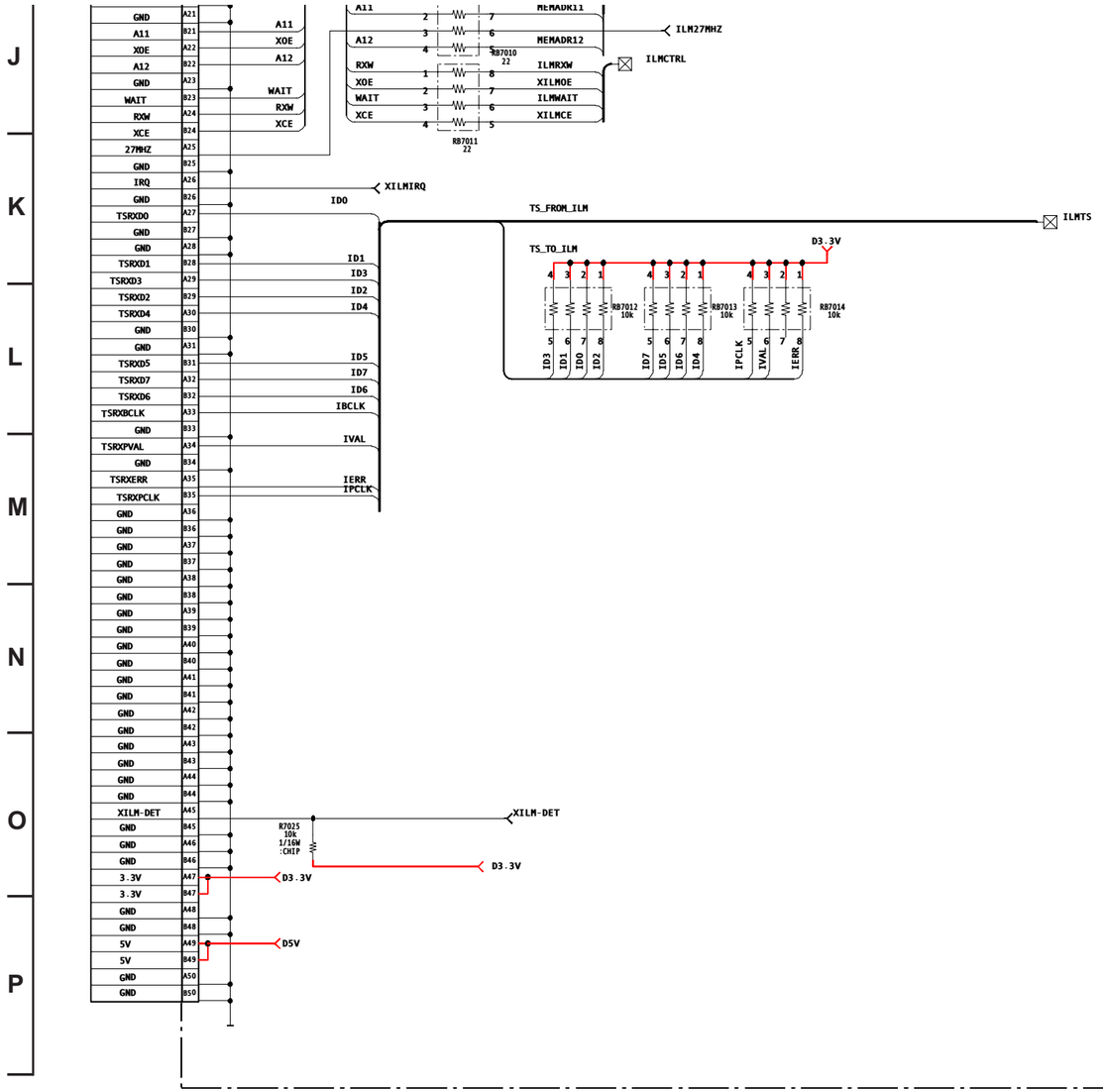
22
23
TU7001
BTD-DA403
ISOLATE
D7007
SML-210MT-T86
GREEN
D7006
SML-210VTT86
RED
D3.3V
D7005
MA2S111-(TX)
Q7005
2SD2216J-(TX)
LED DRIVER
Q7006
2SD2216J-(TX)
LED DRIVER
D1.8V
+6.5V
STTS
ST-SCL
ST-SDA
XFERST
FED0
FED1
FED2
FED3
FED4
FED5
FED6
FED7
FEBCLK
FEPCLK
FEERR
FEVAL
Q7002
SI4922DY
3.3V
SWITCH FET

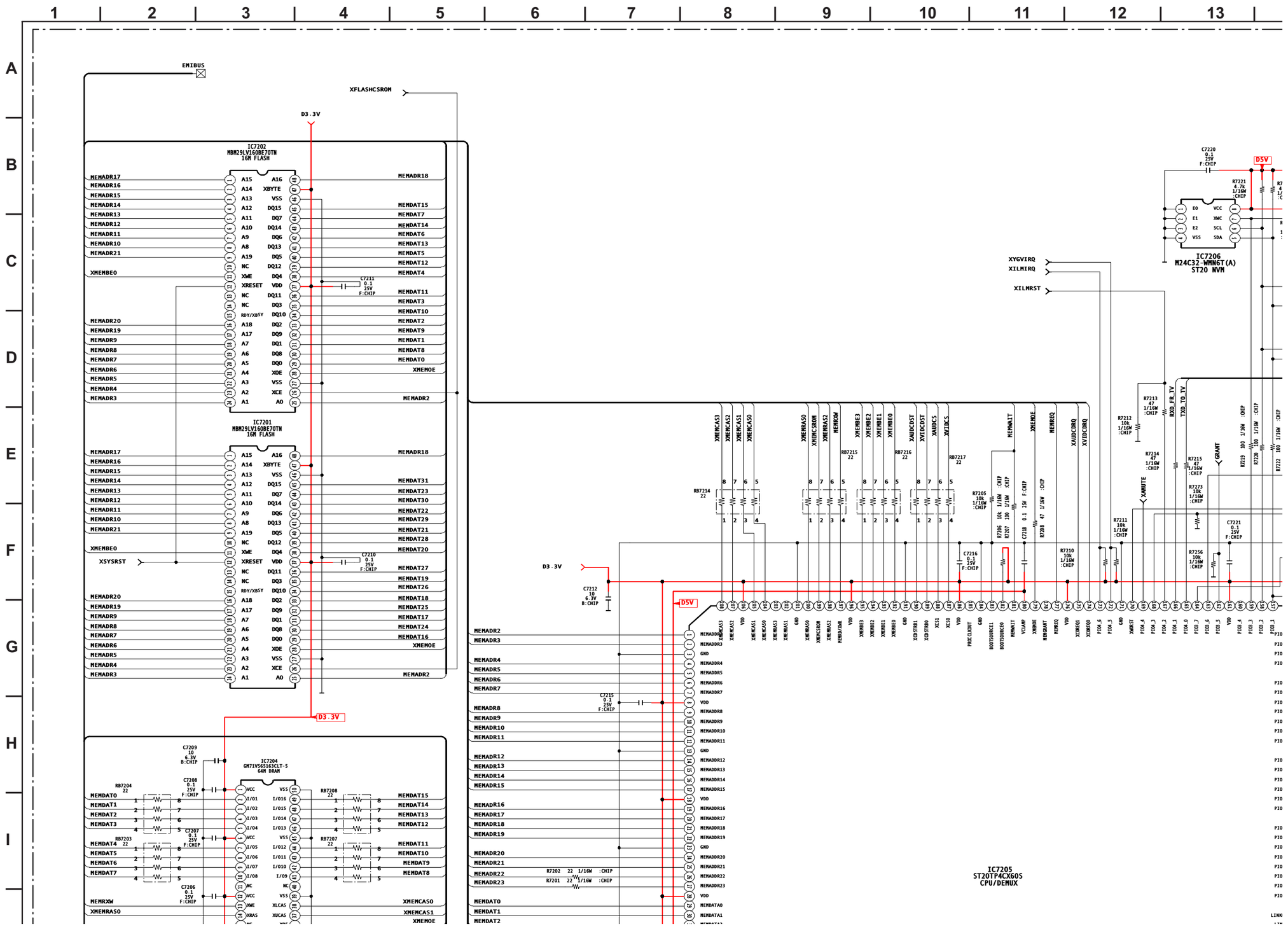

J
K
L
M
N
O
P
GND A21
A11 B21
XOE A22
A12 B22
GND A23
WAIT B23
RXW A24
XCE B24
27MHZ A25
GND B25
IRQ A26
GND B26
TSRXD0 A27
GND B27
GND A28
TSRXD1 B28
TSRXD3 A29
TSRXD2 B29
TSRXD4 A30
GND B30
GND A31
TSRXD5 B31
TSRXD7 A32
TSRXD6 B32
TSRXBCLK A33
GND B33
TSRXPVAL A34
GND B34
TSRXERR A35
TSRXPCLK B35
GND A36
GND B36
GND A37
GND B37
GND A38
GND B38
GND A39
GND B39
GND A40
GND B40
GND A41
GND B41
GND A42
GND B42
GND A43
GND B43
GND A44
GND B44
XILM-DET A45
GND B45
GND A46
GND B46
3.3V A47
3.3V B47
GND A48
GND B48
5V A49
5V B49
GND A50
GND B50
A11
XOE
A12
WAIT
RXW
XCE
A11
A12
RXW
XOE
WAIT
XCE
MEMADR11
MEMADR12
ILMRXW
XILMOE
ILMWAIT
XILMCE
RB7010 22
RB7011 22
ILM27MHZ
ILMCTRL
XILMIRQ
IDO
TS_FROM_ILM
ILMTS
TS_TO_ILM
D3.3V
RB7012 10k
RB7013 10k
RB7014 10k
ID3
ID1
ID0
ID2
ID7
ID5
ID6
ID4
IPCLK
IVAL
IERR
ID1
ID3
ID2
ID4
ID5
ID7
ID6
IBCLK
IVAL
IERR
IPCLK
XILM-DET
R7025 10k 1/16W :CHIP
D3.3V
D3.3V
D5V

7016
JUH
4A

QM BOARD 1/9

FE-PS

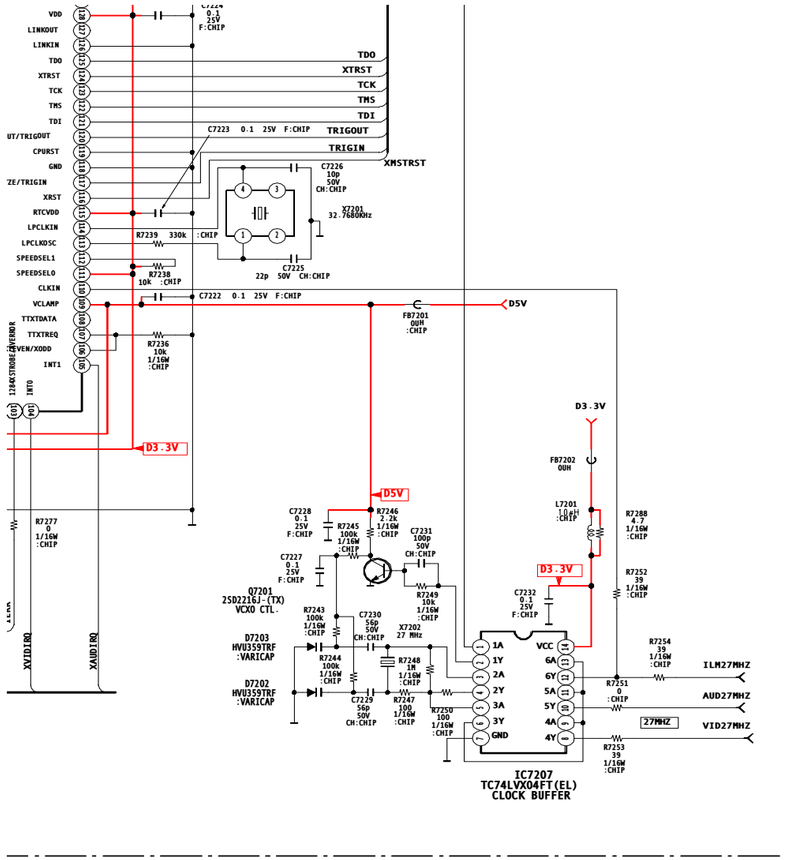
QM BOARD SCHEMATIC DIAGRAM (2 OF 9)

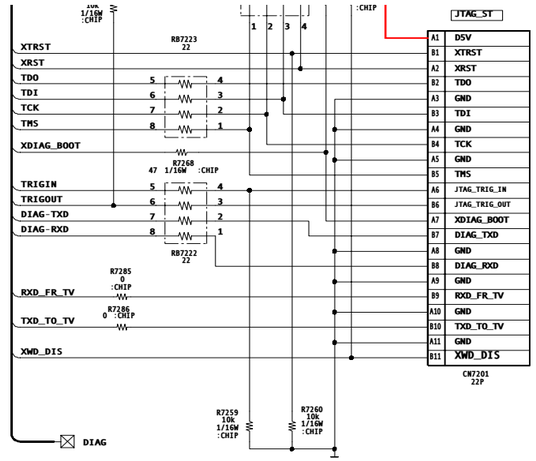


14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

D5V
R7223 4.7k 1/16W :CHIP
R7285 47k 1/16W :CHIP
SCL_EXT
SDA_EXT
CN7204 4P WHT :S-MICRO
1 ST-SCL
2 SCL_EXT
3 ST-SDA
4 SDA_EXT
ST-SCL
ST-SDA
D5V
D7204 LN25RP50 :RED
R7284 56 1/16W :CHIP
R7283 56 1/16W :CHIP
R7281 10k 1/16W :CHIP
R7282 10k 1/16W :CHIP
Q7203 2SD2216J LED DRIVER
R7222 100 1/16W :CHIP
D3.3V
R7276 10k 1/16W :CHIP
R7258 10k 1/16W :CHIP
XB0XRST
D3.3V
D3.3V
IC7209 TC74LVX08FT(EL) RESET
C7234 0.1 25V F:CHIP
IC7208 MAX811TEUS-T RESET CONTROL
MICON_RST
R7266 10k 1/16W :CHIP
R7267 10k 1/16W :CHIP
Q7202 2SD2216J-(TX) INVERTER
C7233 0.1 25V F:CHIP
RESET THRESHOLD = 3.0V
X7000RST
R7264 0 1/16W :CHIP
XSYSRST
D7201 SML-210VTT86 RED
R7235 1k 1/16W :CHIP
D3.3V
D3.3V
R7274 10k 1/16W :CHIP
R7275 10k 1/16W :CHIP
HDELAY
XFERST
XYGVRST
R7271 10k 1/16W :CHIP
R7270 10k 1/16W :CHIP
XSYNC
M2
XILM-DET
XDIAG_BOOT
RB7221 22
INS
BS
CLK
DIO
XWD_DIS
DIAG-RXD
DIAG-TXD
C7224 0.1 25V F:CHIP
XRST
XMSTRST
D3.3V
R7263 10k 1/16W :CHIP
CN7202 10P MEMORY STICK
1 GND
2 BS
3 RESERVED
4 DIO
5 RESERVED
6 INS
7 RESERVED
8 SCLK
9 VCC
10 GND
C7235 0.1 25V F:CHIP
D3.3V
D3.3V
RB7224 10k
R7261 10k 1/16W :CHIP
R7257 10k 1/16W :CHIP
R7262 10k 1/16W :CHIP
D5V
JTAG_ST
RB7223
A1 D5V

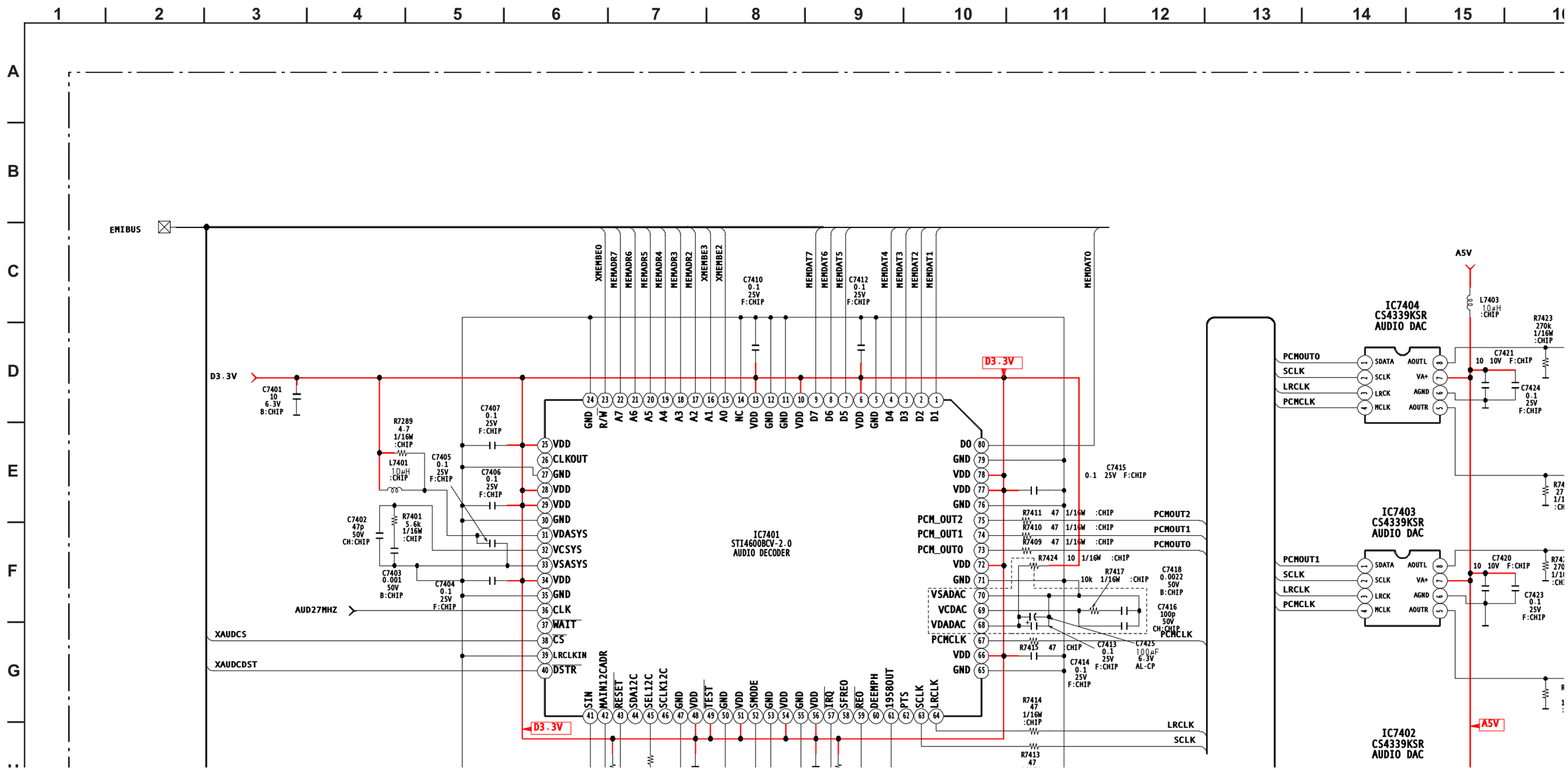
J
K
L
M
N
O
P
MEMRXW
XMEMRAS0
MEMADR2
MEMADR3
MEMADR4
MEMADR5
MEMADR6
MEMADR7
F:CHIP
C7205 0.1 25V F:CHIP
D3.3V
IC7203 GM71VS65163CLT-5 64M DRAM
C7204 0.1 25V F:CHIP
C7203 0.1 25V F:CHIP
C7202 0.1 25V F:CHIP
C7201 0.1 25V F:CHIP
RB7202 22
RB7203 22
RB7206 22
RB7205 22
MEMDAT16
MEMDAT17
MEMDAT18
MEMDAT19
MEMDAT20
MEMDAT21
MEMDAT22
MEMDAT23
MEMDAT31
MEMDAT30
MEMDAT29
MEMDAT28
MEMDAT27
MEMDAT26
MEMDAT25
MEMDAT24
XMEMCAS0
XMEMCAS1
XMEMOE
XMEMCAS2
XMEMCAS3
MEMADR13
MEMADR12
MEMADR11
MEMADR10
MEMADR9
MEMADR8
MEMDAT0
MEMDAT1
MEMDAT2
MEMDAT3
MEMDAT4
MEMDAT5
MEMDAT6
MEMDAT7
MEMDAT8
MEMDAT9
MEMDAT10
MEMDAT11
MEMDAT12
MEMDAT13
MEMDAT14
MEMDAT15
C7214 0.1 25V F:CHIP
C7213 0.1 25V F:CHIP
D5V
C7217 0.1 25V F:CHIP
C7219 0.1 25V F:CHIP
ILMTS
STTS
LINK
CPU
RTC
TTXT
IVAL
IPCLK
IBCLK
IERR
FEDCLK
FEVAL
FEPCLK
FEERR
XVIDIRQ





QM BOARD 2/9
ST20 SYSTEM MICRO

QM BOARD SCHEMATIC DIAGRAM (3 OF 9)



16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28

TO B BOARD
CN009

AUDIO OUT

CN7402
22P

A1	SUB_OSD
B1	NC
A2	A_MNO_FL
B2	GND
A3	A_MNO_FR
B3	GND
A4	A_MNO_FL
B4	A_MNO_FR
A5	A_MNO_C
B5	GND
A6	A_MNO_RL
B6	A_MNO_RR
A7	A_MNO_LF
B7	GND
A8	NC
B8	NC
A9	NC
B9	NC
A10	NC
B10	NC
A11	NC
B11	NC

SUB_OSD — R7447 0 :CHIP

A_MNO_FL — R7436 100 1/16W :CHIP

A_MNO_FR — R7437 100 1/16W :CHIP

A_MNO_C — R7438 100 1/16W :CHIP

A_MNO_RL — R7439 100 1/16W :CHIP

A_MNO_RR — R7440 100 1/16W :CHIP

A_MNO_LF — R7441 100 1/16W :CHIP

R7442 100 1/16W :CHIP

R7443 100 1/16W :CHIP

155MV_RMS(-18DB)

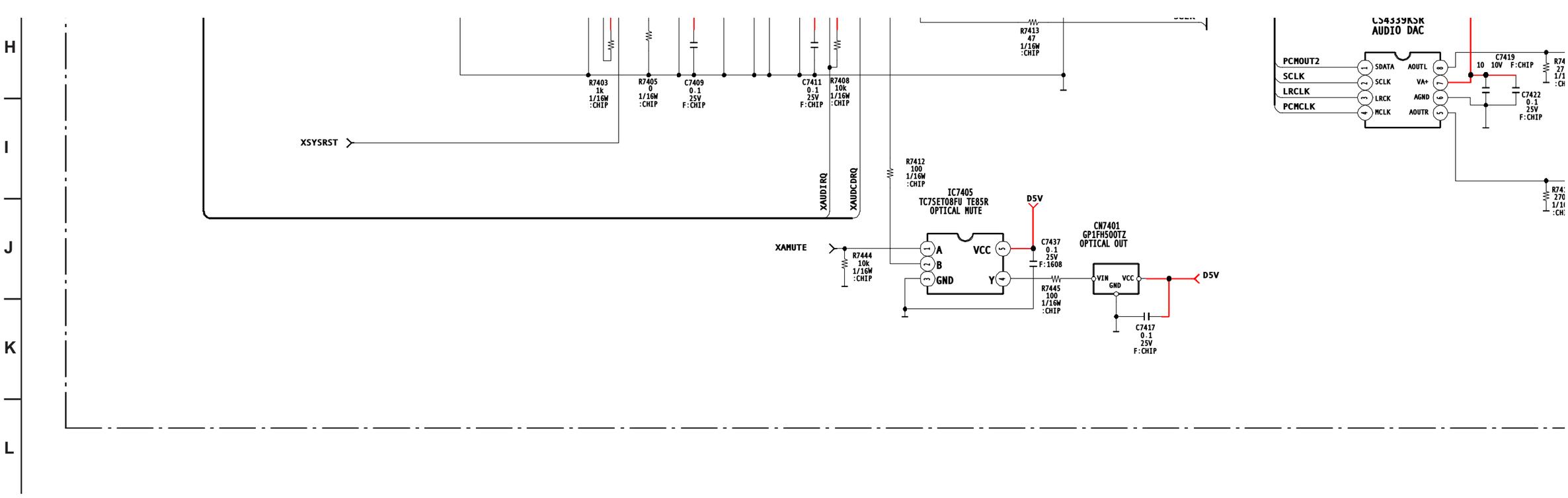
R7435 560 1/16W :CHIP — C7436 3300p 50V B:CHIP — L — A_MNO_FL

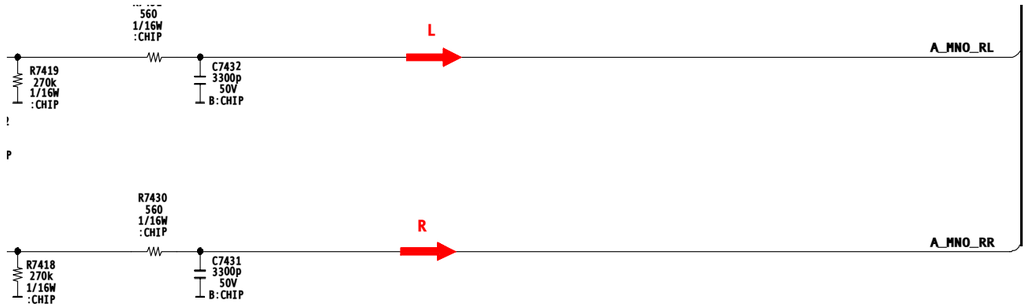
R7434 560 1/16W :CHIP — R7422 270k 1/16W :CHIP — C7435 3300p 50V B:CHIP — R — A_MNO_FR

R7433 560 1/16W :CHIP — R7421 270k 1/16W :CHIP — C7434 3300p 50V B:CHIP — L — A_MNO_C

R7432 560 1/16W :CHIP — R7420 270k 1/16W :CHIP — C7433 3300p 50V B:CHIP — R — A_MNO_LF

R7431 560 1/16W :CHIP — L

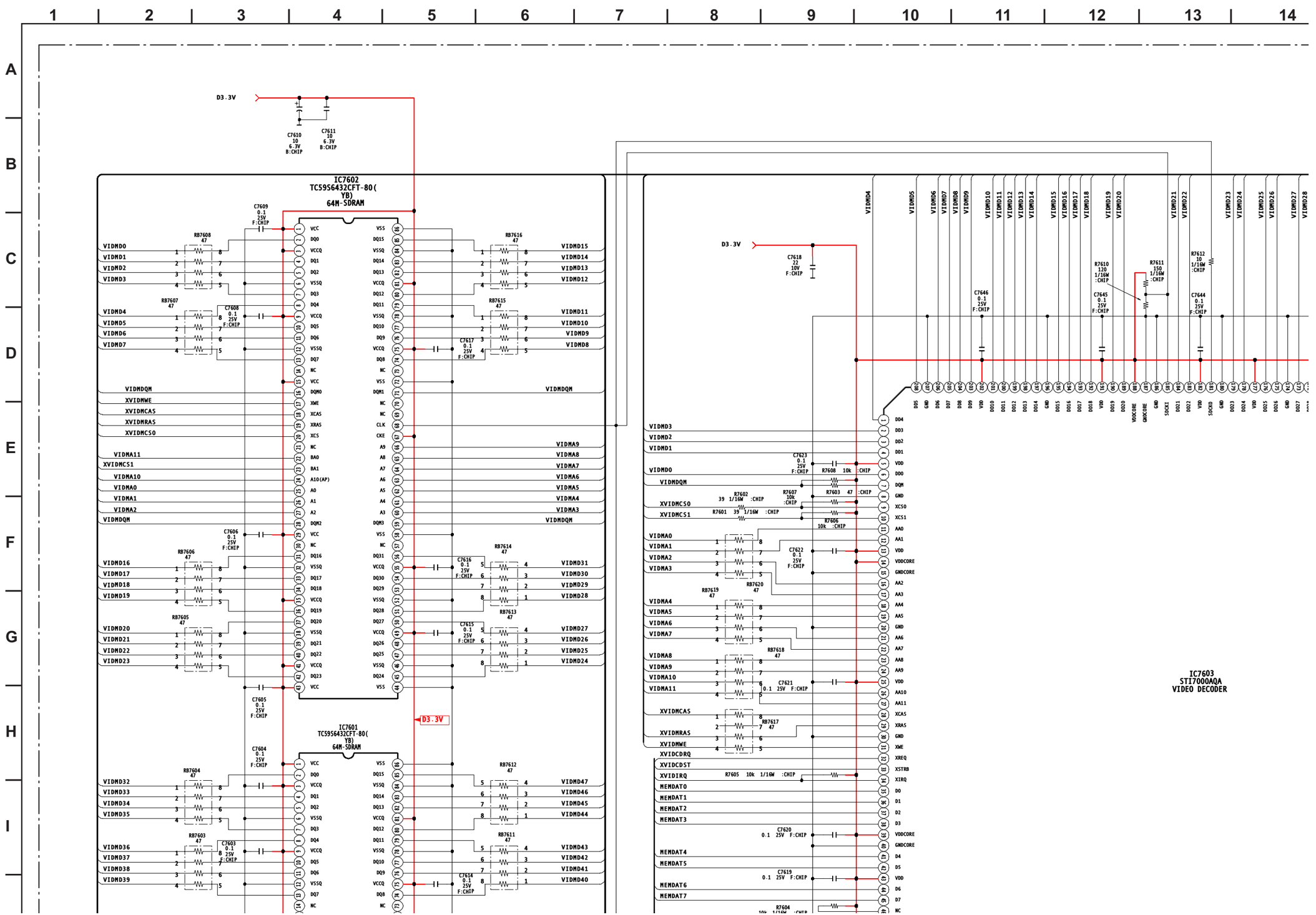

H
I
J
K
L
R7403
1k
1/16W
:CHIP
R7405
0
1/16W
:CHIP
C7409
0.1
25V
F:CHIP
C7411
0.1
25V
F:CHIP
R7408
10k
1/16W
:CHIP
R7413
47
1/16W
:CHIP
XSYSRST
XAUDIRQ
XAUDCDRQ
R7412
100
1/16W
:CHIP
IC7405
TC7SET08FU TE85R
OPTICAL MUTE
D5V
XAMUTE
R7444
10k
1/16W
:CHIP
A
B
GND
VCC
Y
C7437
0.1
25V
F:1608
R7445
100
1/16W
:CHIP
CN7401
GP1FH500TZ
OPTICAL OUT
VIN
GND
VCC
C7417
0.1
25V
F:CHIP
D5V
CS4339KSK
AUDIO DAC
PCMOUT2
SCLK
LRCLK
PCMCLK
SDATA
SCLK
LRCK
MCLK
AOUTL
VA+
AGND
AOUTR
C7419
10
10V
F:CHIP
C7422
0.1
25V
F:CHIP



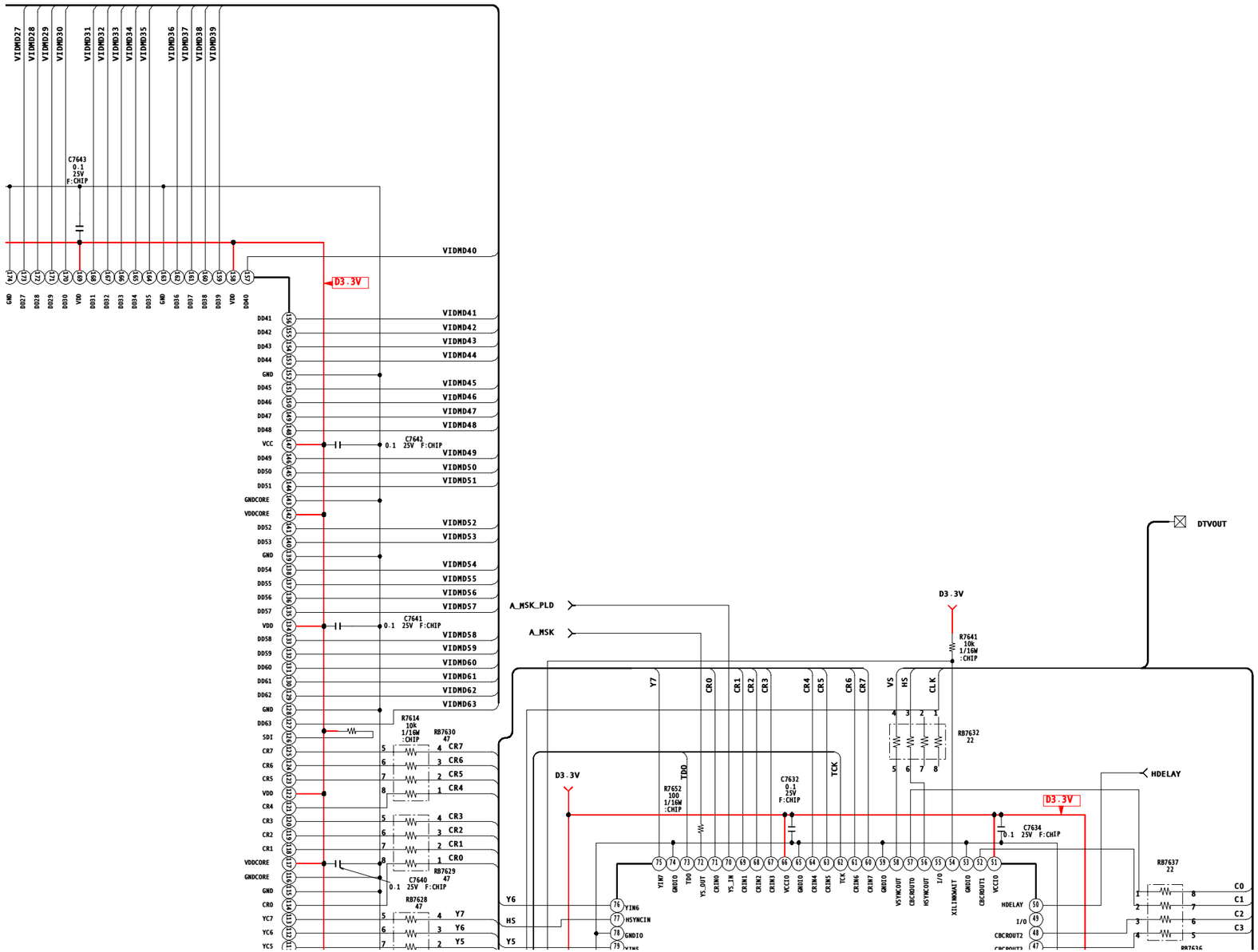
QM BOARD 3/9

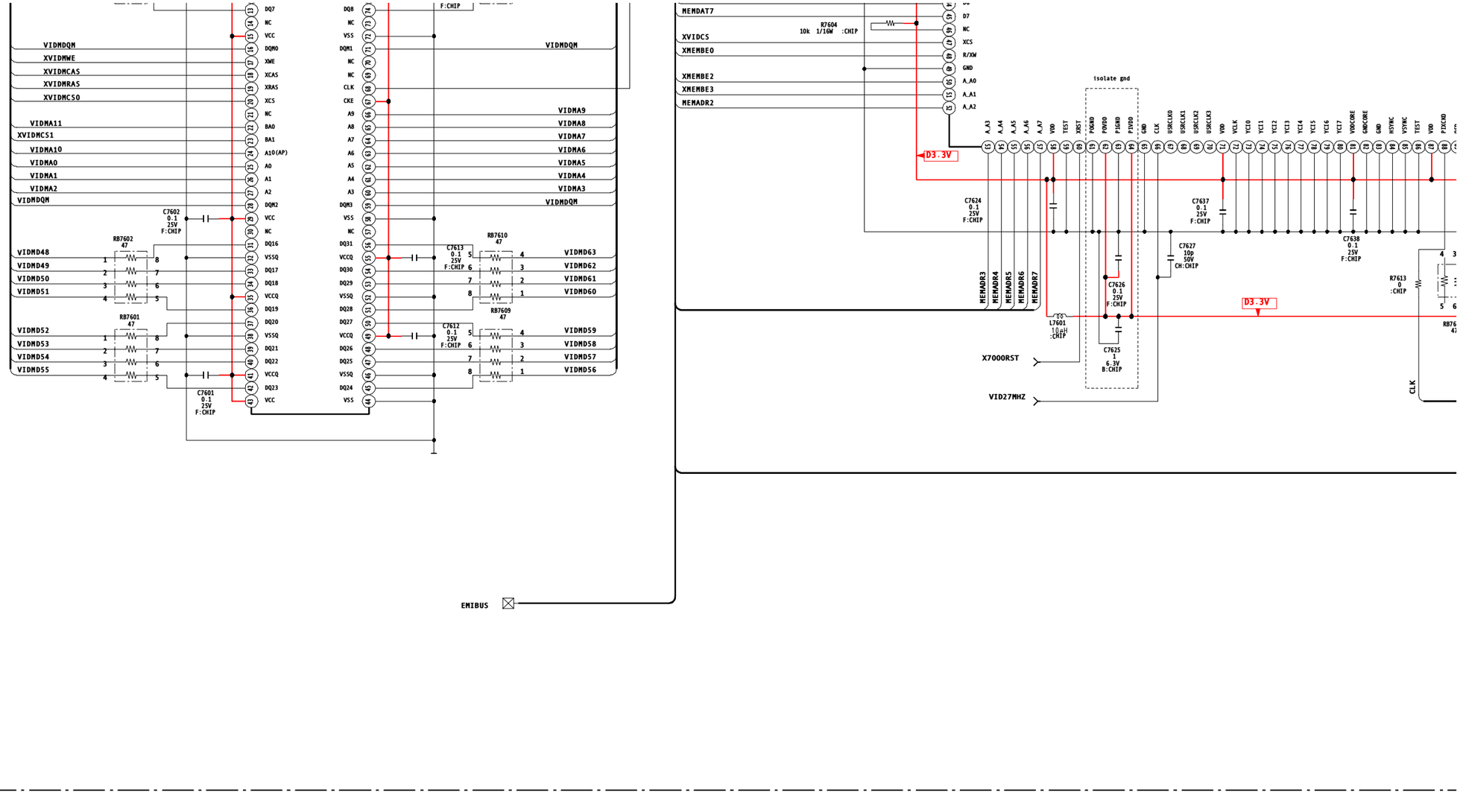
AUDIO

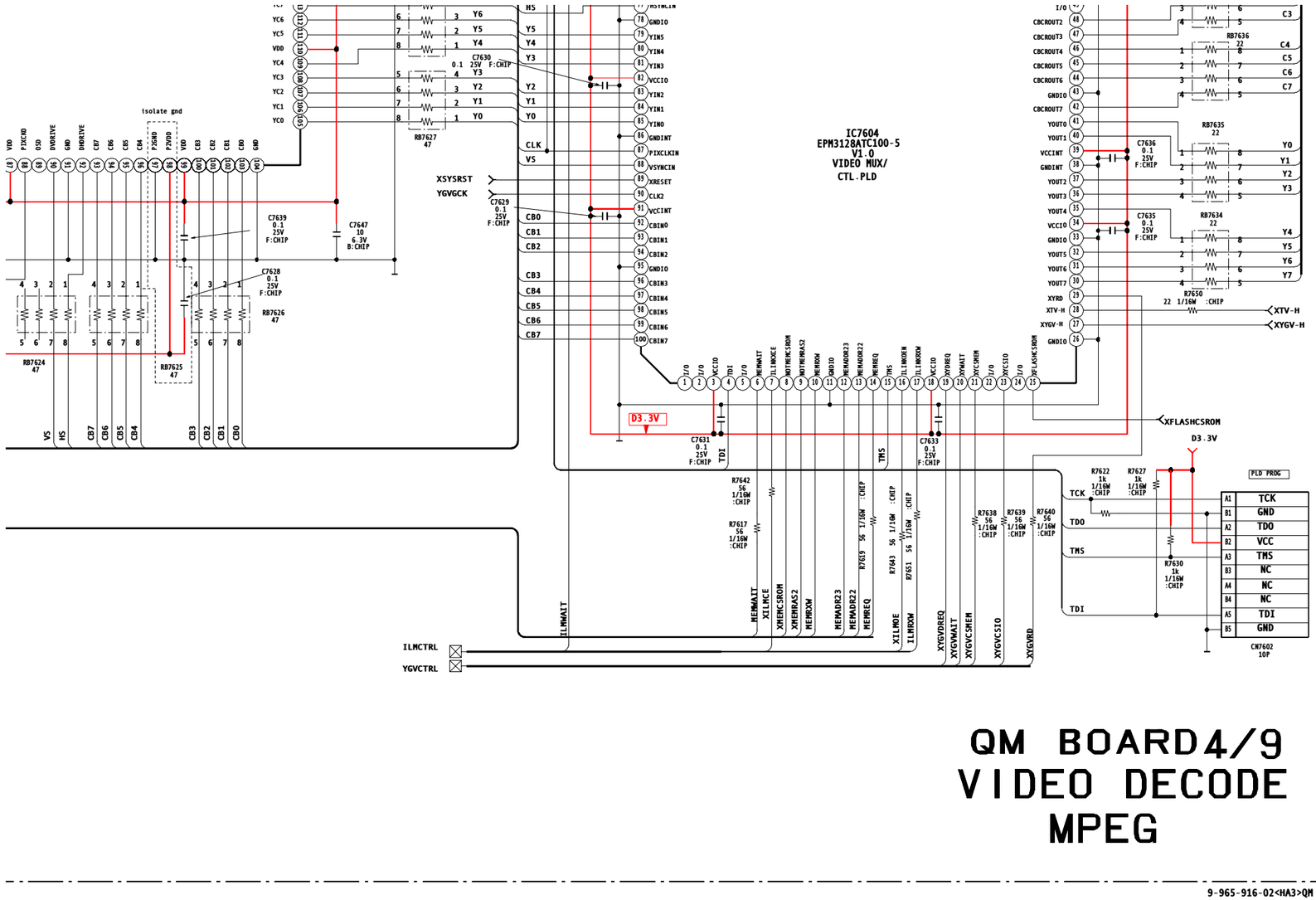
QM BOARD SCHEMATIC DIAGRAM (4 OF 9)



4 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25

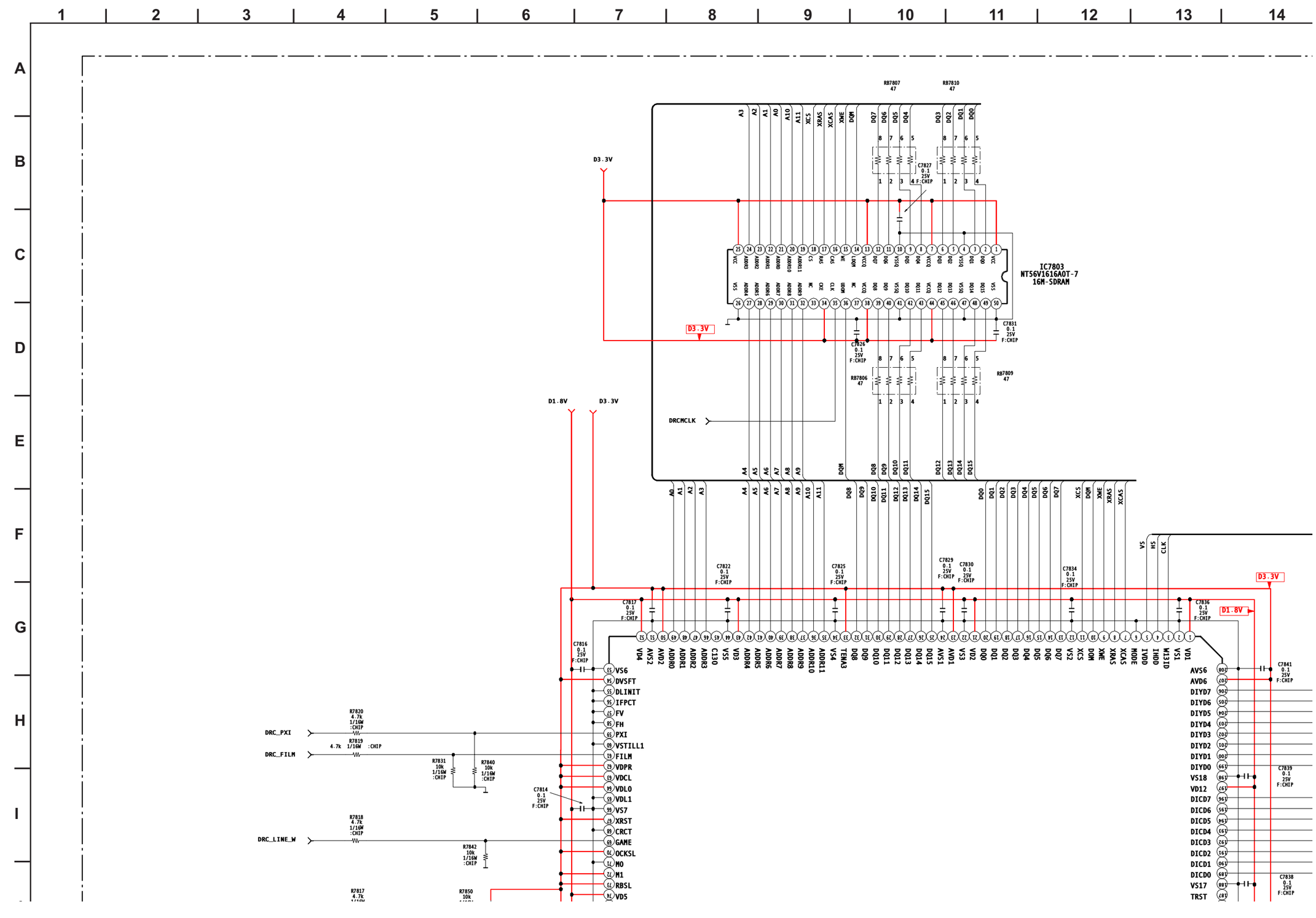



VIDMDQM
XVIDMWE
XVIDMCAS
XVIDMRAS
XVIDMCS0
VIDMA11
XVIDMCS1
VIDMA10
VIDMA0
VIDMA1
VIDMA2
VIDMDQM
VIDMD48
VIDMD49
VIDMD50
VIDMD51
VIDMD52
VIDMD53
VIDMD54
VIDMD55
DQ7
NC
VCC
DQM0
XWE
XCAS
XRAS
XCS
NC
BA0
BA1
A10(AP)
A0
A1
A2
DQM2
VCC
NC
DQ16
VSSQ
DQ17
DQ18
VCCQ
DQ19
DQ20
VSSQ
DQ21
DQ22
VCCQ
DQ23
VCC
C7602 0.1 25V F:CHIP
C7601 0.1 25V F:CHIP
RB7602 47
RB7601 47
DQ8
NC
VSS
DQM1
NC
NC
CLK
CKE
A9
A8
A7
A6
A5
A4
A3
DQM3
VSS
NC
DQ31
VCCQ
DQ30
DQ29
VSSQ
DQ28
DQ27
VCCQ
DQ26
DQ25
VSSQ
DQ24
VSS
F:CHIP
VIDMDQM
VIDMA9
VIDMA8
VIDMA7
VIDMA6
VIDMA5
VIDMA4
VIDMA3
VIDMDQM
C7613 0.1 25V F:CHIP
C7612 0.1 25V F:CHIP
RB7610 47
RB7609 47
VIDMD63
VIDMD62
VIDMD61
VIDMD60
VIDMD59
VIDMD58
VIDMD57
VIDMD56
EMIBUS
MEMDAT7
XVIDCS
XMEMBE0
XMEMBE2
XMEMBE3
MEMADR2
R7604 10k 1/16W :CHIP
D7
NC
XCS
R/XW
GND
A_A0
A_A1
A_A2
D3.3V
isolate gnd
A_A3
A_A4
A_A5
A_A6
A_A7
VDD
TEST
XRST
PGND
PVDD
PGND
PVDD
GND
CLK
USBCLK0
USBCLK1
USBCLK2
USBCLK3
VDD
VCLK
YC10
YC11
YC12
YC13
YC14
YC15
YC16
YC17
VDDCORE
GNDCORE
GND
HSYNC
VSYNC
TEST
VDD
PIXCKO
C7624 0.1 25V F:CHIP
C7637 0.1 25V F:CHIP
C7638 0.1 25V F:CHIP
C7627 10p 50V CH:CHIP
C7626 0.1 25V F:CHIP
C7625 1 6.3V B:CHIP
L7601 10uH :CHIP
R7613 0 :CHIP
MEMADR3
MEMADR4
MEMADR5
MEMADR6
MEMADR7
X7000RST
VID27MHZ
CLK

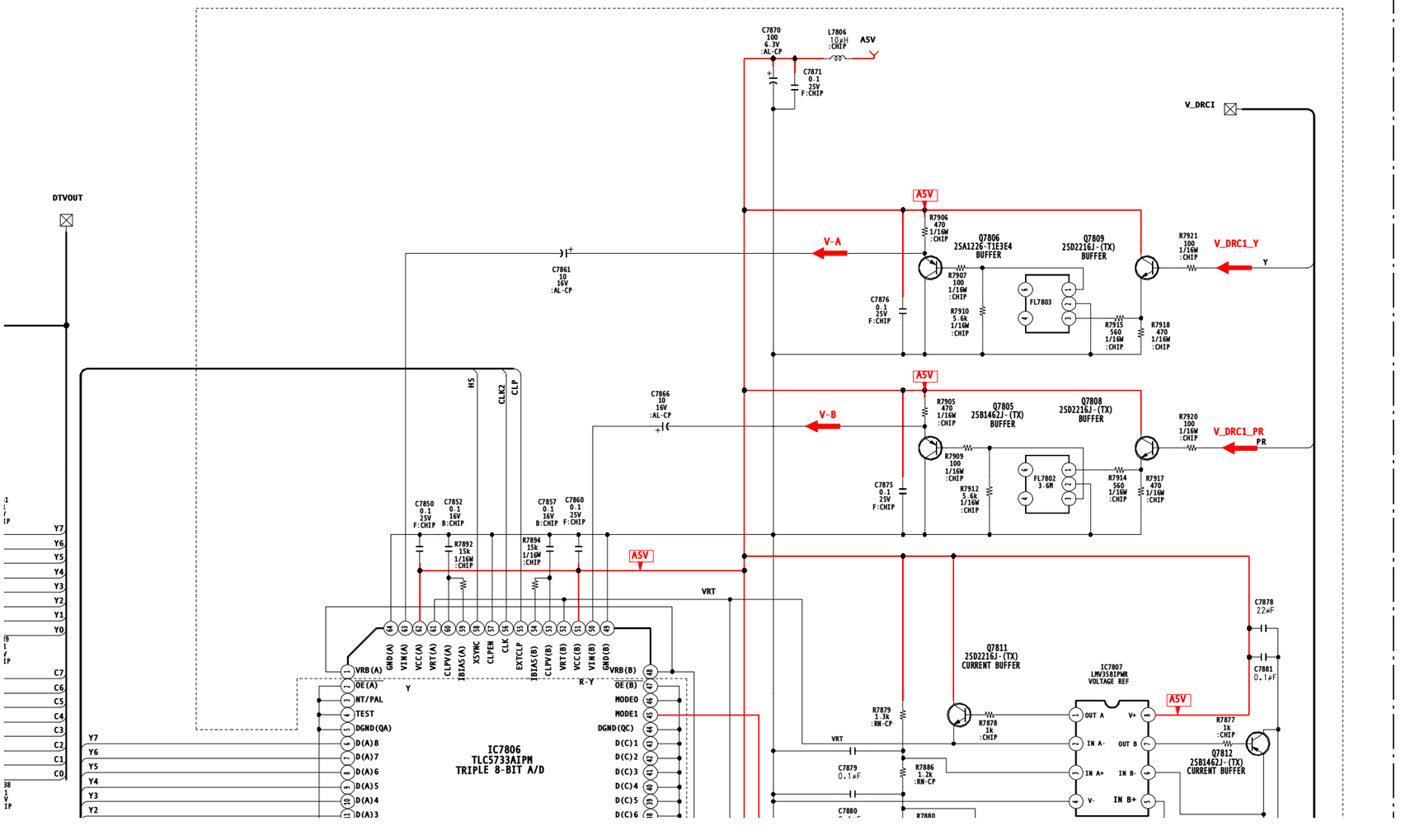


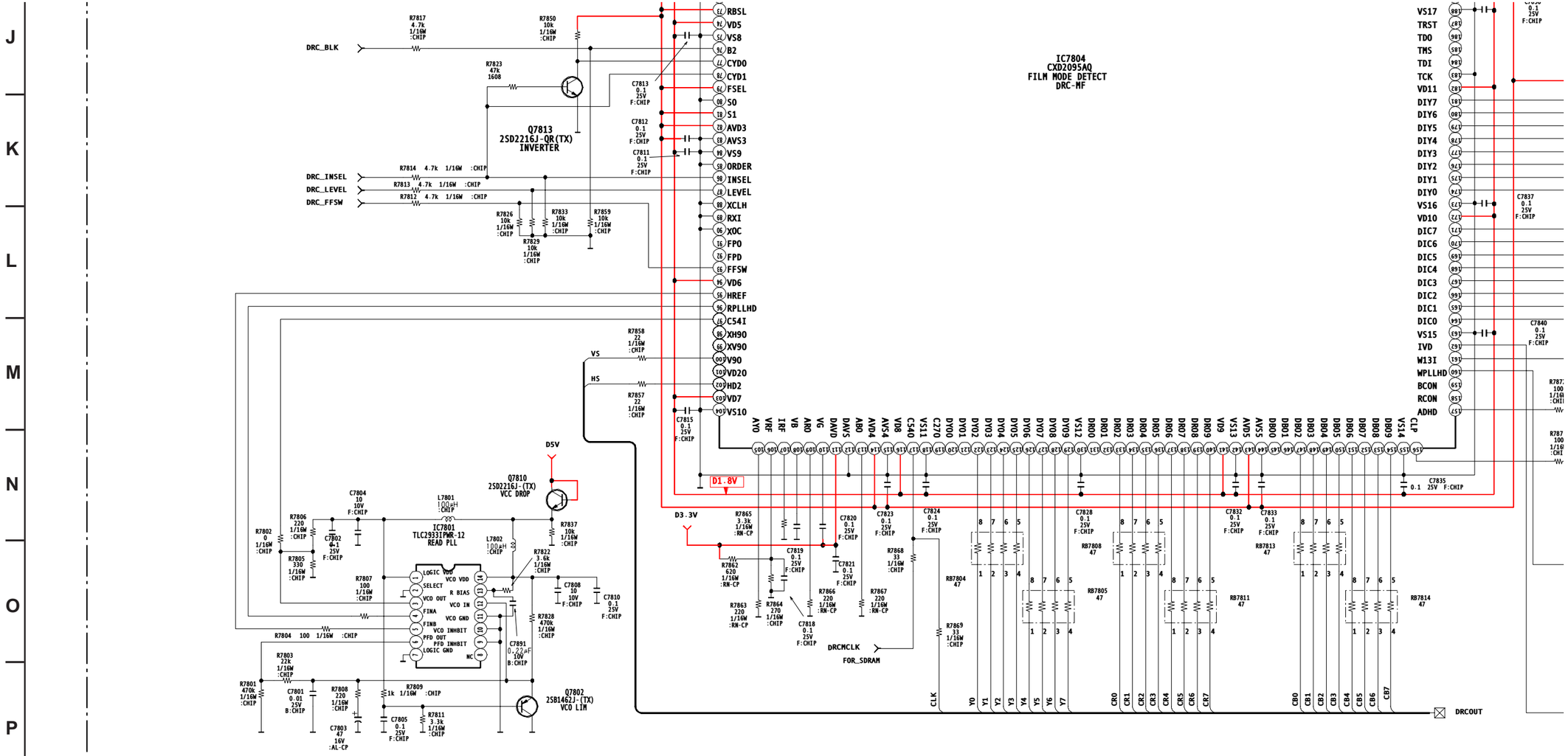
QM BOARD4/9
VIDEO DECODE
MPEG

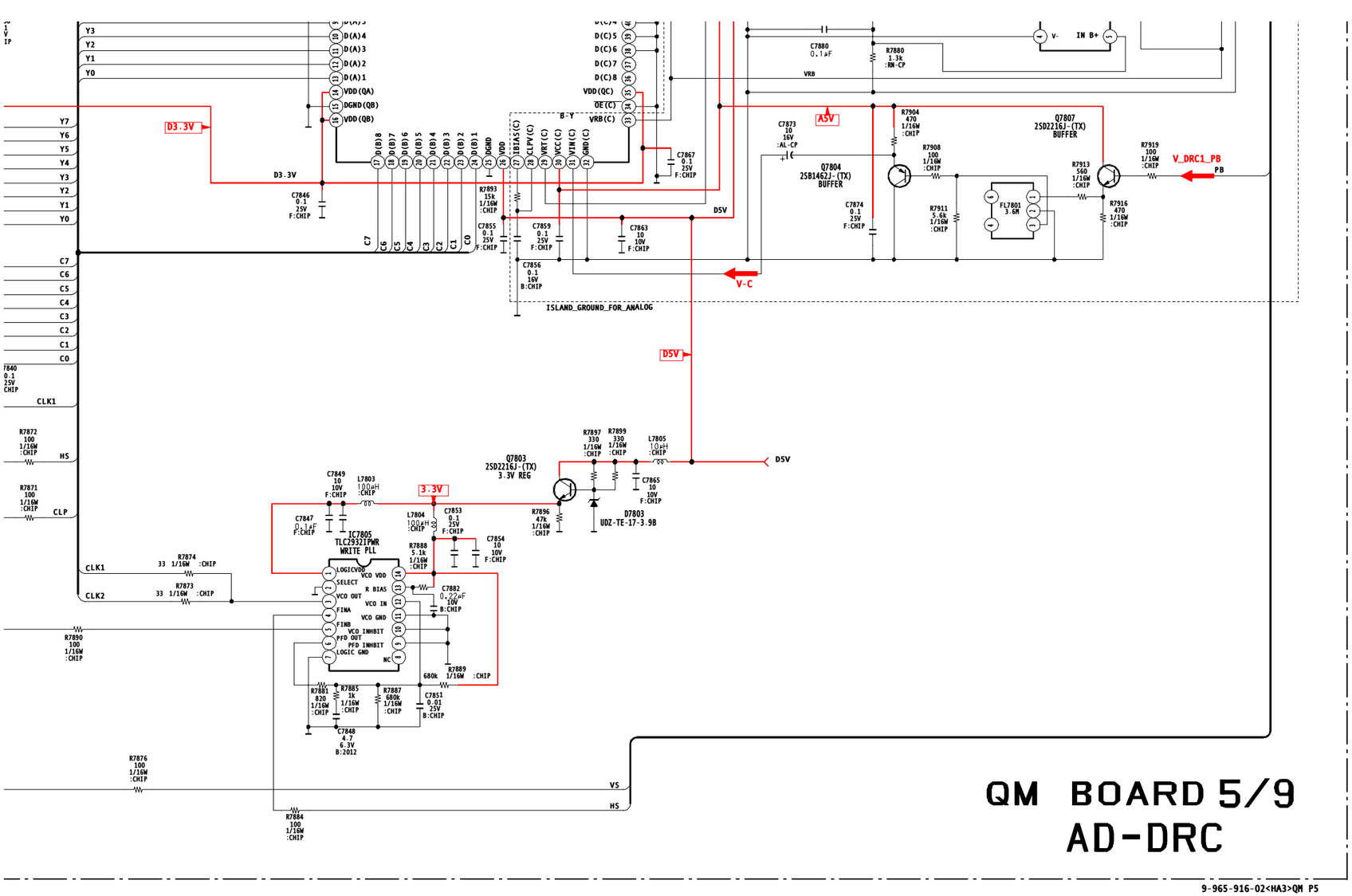
QM BOARD SCHEMATIC DIAGRAM (5 OF 9)



15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25

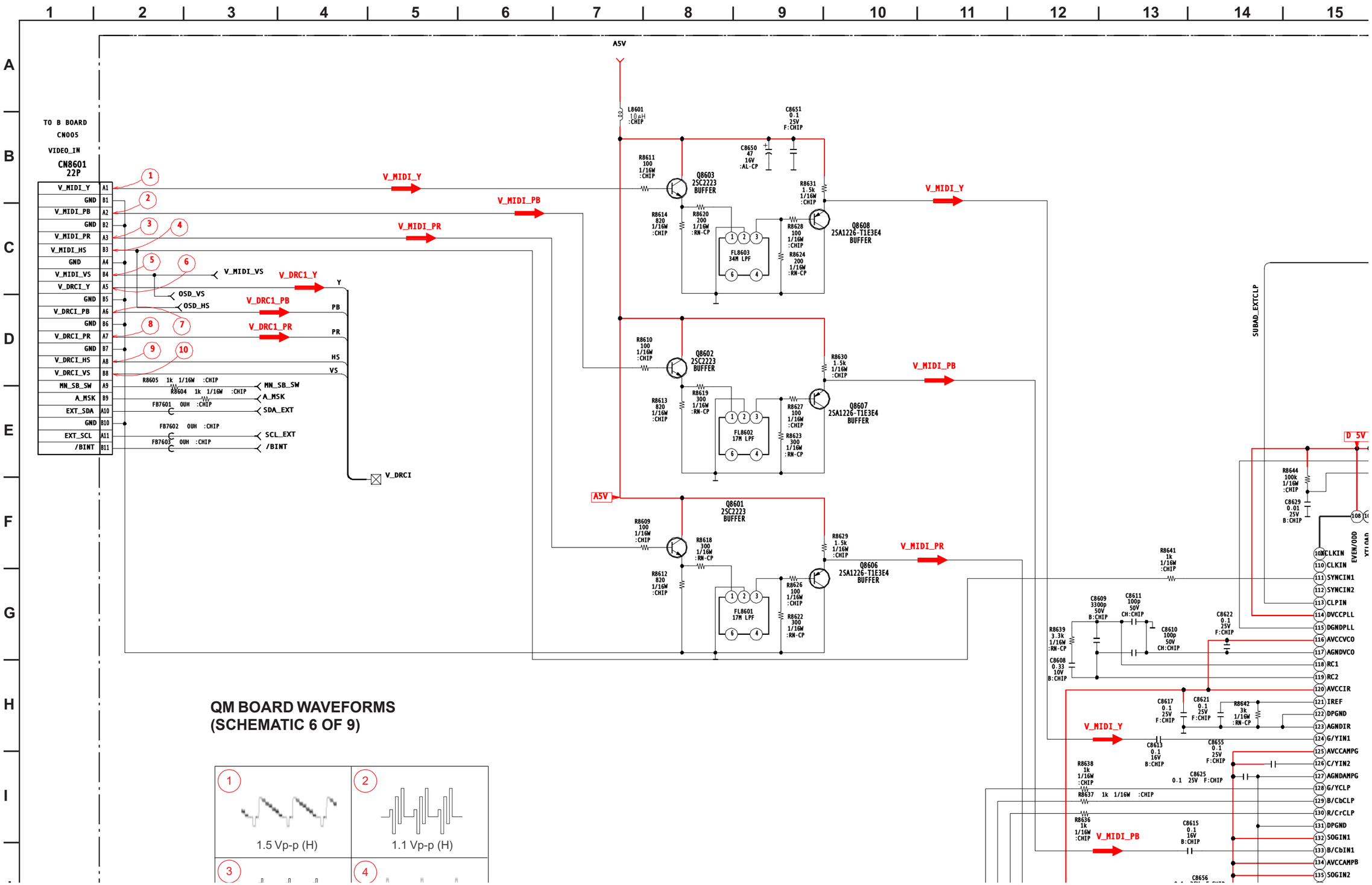



IC7804
CXD2095AQ
FILM MODE DETECT
DRC-MF
Q7813
2SD2216J-QR(TX)
INVERTER
Q7810
2SD2216J-(TX)
VCC DROP
IC7801
TLC2933IPWR-12
READ PLL
Q7802
2SB1462J-(TX)
VCO LIM
D5V
D3.3V
D1.8V
DRCMCLK
FOR_SDRAM
DRCOUT
DRC_BLK
DRC_INSEL
DRC_LEVEL
DRC_FFSW
RBSL
VD5
VS8
B2
CYD0
CYD1
FSEL
S0
S1
AVD3
AVS3
VS9
ORDER
INSEL
LEVEL
XCLH
RXI
XOC
FPO
FPD
FFSW
VD6
HREF
RPLLHD
C54I
XH90
XV90
V90
VD20
HD2
VD7
VS10
VS
HS
VS17
TRST
TDO
TMS
TDI
TCK
VD11
DIY7
DIY6
DIY5
DIY4
DIY3
DIY2
DIY1
DIY0
VS16
VD10
DIC7
DIC6
DIC5
DIC4
DIC3
DIC2
DIC1
DIC0
VS15
IVD
W13I
WPLLHD
BCON
RCON
ADHD
CLP
AVD
VREF
IRF
VB
ARO
VG
DAVD
DAV5
AB0
AVDA
AVS4
VD8
C540
VS11
C270
DY00
DY01
DY02
DY03
DY04
DY05
DY06
DY07
DY08
DY09
VS12
DB00
DB01
DB02
DB03
DB04
DB05
DB06
DB07
DB08
DB09
VD9
VS13
AVD5
AVS5
DB00
DB01
DB02
DB03
DB04
DB05
DB06
DB07
DB08
DB09
VS14
CLK
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
CR0
CR1
CR2
CR3
CR4
CR5
CR6
CR7
CB0
CB1
CB2
CB3
CB4
CB5
CB6
CB7



QM BOARD 5/9
AD-DRC

QM BOARD SCHEMATIC DIAGRAM (6 OF 9)



QM BOARD WAVEFORMS (SCHEMATIC 6 OF 9)

16 17 18 19 20 21 22 23 24 25 26 27

3.3V REG

IC8709
PQ07VZ012P

V IN (1) V CONT (2) V OUT (3) V ADJ (4) GND (5)

A5V

C8652 47 16V :AL-CP

C8653 0.1 25V F:CHIP

D7008 1SS355TE-17

R8658 3.3k 1/16W RN:CP

R8657 3.3k 1/16W RN:CP

R8656 1k 1/16W RN:CP

C8654 100 6.3V :AL-CP

ADC3V

L8602 4.7μH :CHIP

C8638 22 10V F:CHIP

L8603 10μH :CHIP

A5V

+5VA_SUBAD

C8639 47 16V :AL-CP

C8640 10 10V F:CHIP

C8641 10 10V F:CHIP

C8643 0.1 25V F:CHIP

C8645 0.1 25V F:CHIP

C8647 0.1 25V F:CHIP

C8649 0.1 25V F:CHIP

D5V

C8642 0.1 25V F:CHIP

C8644 0.1 25V F:CHIP

C8646 0.1 25V F:CHIP

C8648 0.1 25V F:CHIP

SUBAD_PLLHOLD

SUBAD_DSYNC

SUBAD_DOTCLK

SUBAD_XDOTCLK

ADC3V

R8651 22 1/16W :CHIP

R8744 22 1/16W :CHIP

C8632 0.1 25V F:CHIP

C8634 1 6.3V B:CHIP

C8637 0.1 25V F:CHIP

D5V

R8649 100 1/16W :CHIP

SUBAD_PLL_LOCK

Y7 Y6 Y5 Y4

RB8603 22

8 7 6 5

1 2 3 4

108 EVEN/ODD
107 XTLOAD
106 HOLD
105 SOGOUT
104 XUNLOCK
103 DSYNC/DIVOUT
102 DPGND
101 1/2CLK
100 1/2XCLK
99 CLK
98 XCLK
97 DGNDPLLTTL
96 DVCCPLLTTL
95 AGNDDADREF
94 AVCCAD3
93 VRB
92 DVCCAD3
91 DVCCAD
90 DVCCADTTL
89 DGNDADTTL
88 GB7
87 GB6
86 DGNDAD3
85 GB5
84 GB4
83 GB3
82 GB2
81 GB1
80 AGNDAD3
79 DGNDAD3
78 GB0
77 DGNDADTTL
76 DVCCADTTL
75 GA7
74 GA6
73 GA5

IC8601
CXA3506R
A/D

GA4 72
GA3 71
GA2 70
GA1 69
GA0 68
DGNDADTTL 67
DGNDAD3 66
DVCCADTTL 65
BB7 64
BB6 63
BB5 62
BB4 61
BB3 60
DGNDAD3 59
BB2 58
BB1 57
BB0 56
DGNDADTTL 55
DVCCADTTL 54
BA7 53
BA6 52
BA5 51
DGNDDAD3 50
BA4 49
BA3 48
BA2 47
BA1 46

RB8606 22

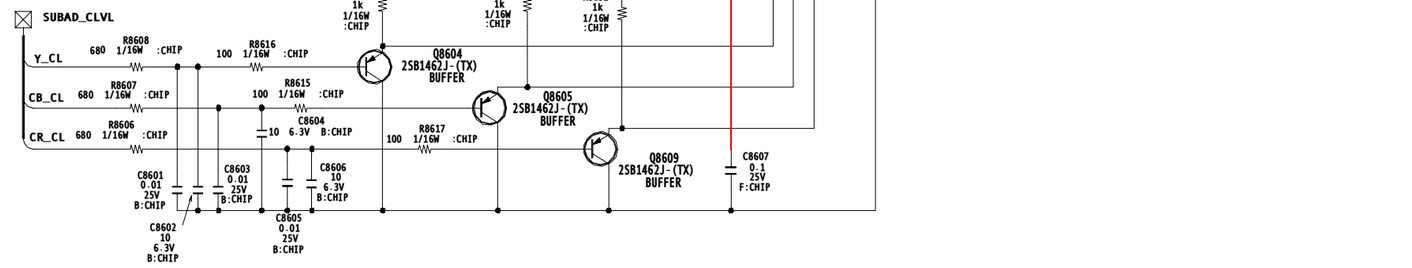
5 4 Y3
6 3 Y2
7 2 Y1
8 1 Y0

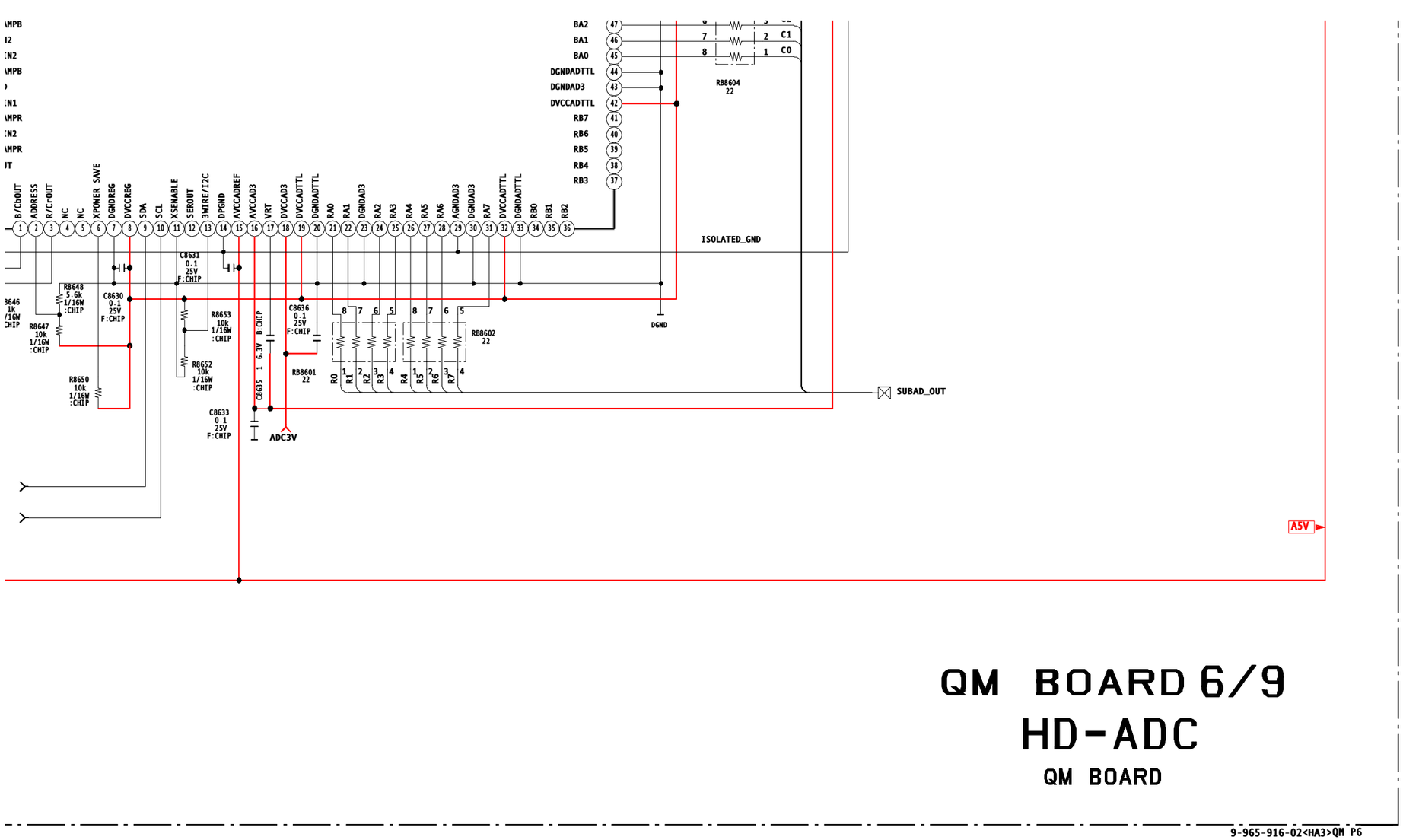
RB8605 22

5 4 C7
6 3 C6
7 2 C5
8 1 C4

5 4 C3
6 3 C2
7 2 C1

3 1.3 Vp-p (H)	4 3.5 Vp-p (H)
5 3.3 Vp-p (V)	6 1.5 Vp-p (H)
7 1.1 Vp-p (H)	8 1.1 Vp-p (H)
9 3.4 Vp-p (H)	10 3.4 Vp-p (V)



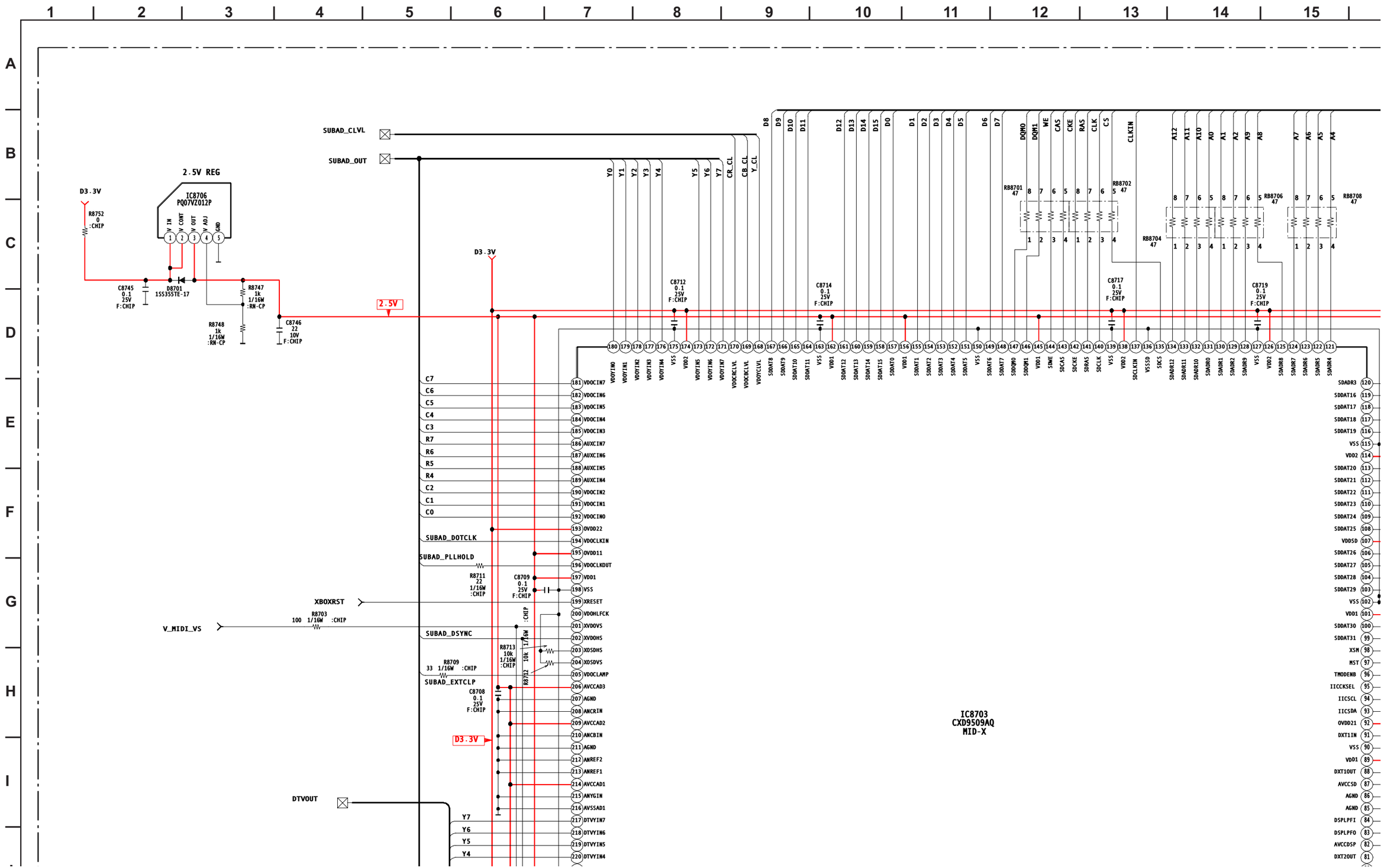


QM BOARD 6/9

HD-ADC

QM BOARD

QM BOARD SCHEMATIC DIAGRAM (7 OF 9)



16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27

D3.3V

R8720 22 1/16W :CHIP

A3
D16
D17
D18
D19

C8724 0.1 25V F:CHIP

D20
D21
D22
D23
D24
D25
D26
D27
D28
D29

C8723 0.1 25V F:CHIP

D30
D31

R8719 10k 1/16W :CHIP
R8718 10k 1/16W :CHIP
R8717 10k 1/16W :CHIP
R8724 0 1/16W :CHIP

D3.3V

R8733 10k 1/16W :CHIP
R8734 10k 1/16W :CHIP

Q8701 2SK1399 LEVEL-SHIFT

SCL_M5

C8728 12p 50V CH:CHIP
X8701 18.543956MHz

SDA_M5

Q8702 2SK1399 LEVEL-SHIFT

C8726 0.1 25V F:CHIP
C8729 12p 50V CH:CHIP
C8733 0.1 25V F:CHIP

SCL_M3

R8726 0 :CHIP
R8736 10 1/16W :CHIP

SDA_M3

R8716 10k 1/16W :CHIP
R8725 270 :CHIP
C8731 0.0047 50V B:CHIP
R8737 10
C8734 0.1
R8715 10k

D3.3V

IC8704
TC59S6432CFT-80(YB)
64M-SDRAM

C8737 0.1 25V F:CHIP
C8740 0.1 25V F:CHIP

RB8711 47
RB8710 47
RB8715 47
RB8714 47

D0 D1 D2 D3 D4 D5 D6 D7
D15 D14 D13 D12 D11 D10 D9 D8

VCC DQ0 VCCQ DQ1 DQ2 VSSQ DQ3 DQ4 VCCQ DQ5 DQ6 VSSQ DQ7 N.C. VCC
VSS DQ15 VSSQ DQ14 DQ13 VCCQ DQ12 DQ11 VSSQ DQ10 DQ9 VCCQ DQ8 N.C. VSS

DQM0 WE CAS RAS CS N.C. A12 A11 A10 A0 A1 A2 DQM2
DQM1 N.C. N.C. CLK CKE A9 A8 A7 A6 A5 A4 A3 DQM3

D3.3V

C8742 0.1 25V F:CHIP

DQM0
CLKIN
CLK
CKE
A9
A8
A7
A6
A5
A4
A3
DQM1

C8738 0.1 25V F:CHIP

RB8713 47
RB8712 47
RB8717 47
RB8716 47

D16 D17 D18 D19 D20 D21 D22 D23
D31 D30 D29 D28 D27 D26 D25 D24

VCC N.C. DQ16 VSSQ DQ17 DQ18 VCCQ DQ19 DQ20 VSSQ DQ21 DQ22 VCCQ DQ23 VCC
VSS DQ31 VCCQ DQ30 DQ29 VSSQ DQ28 DQ27 VCCQ DQ26 DQ25 VSSQ DQ24 VSS

C8741 0.1 25V F:CHIP

C8739 0.1 25V F:CHIP

J

K

L

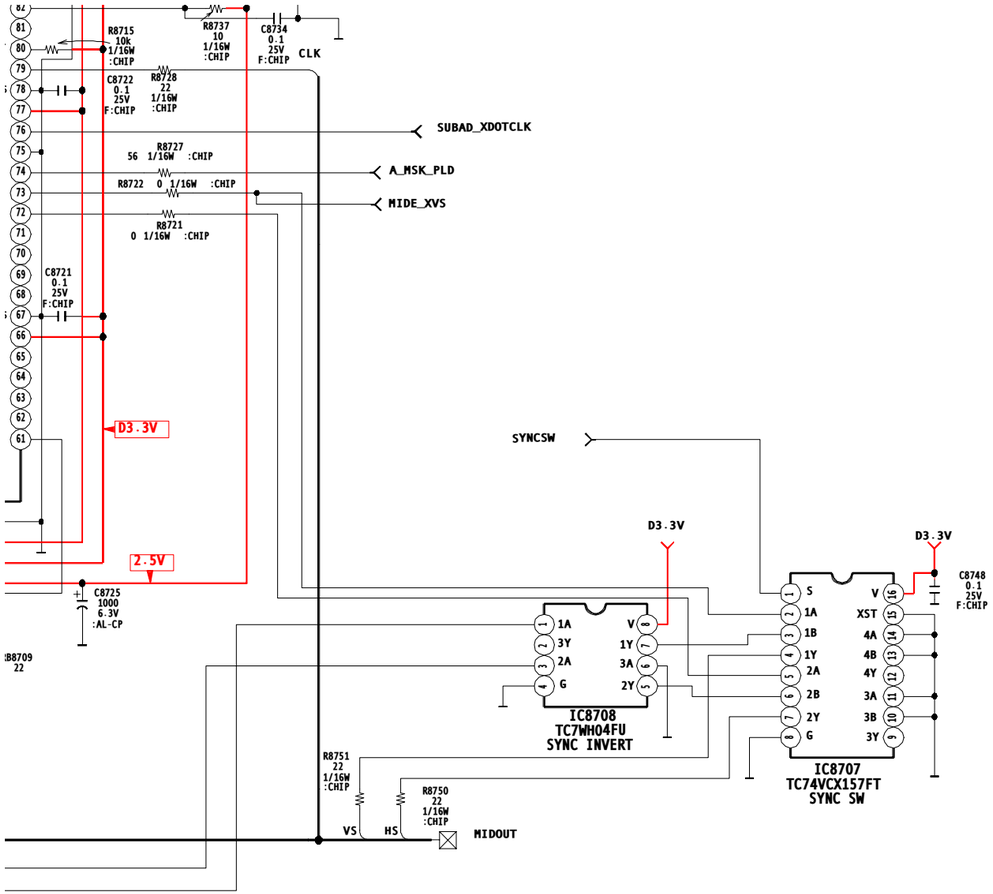
M

N

O

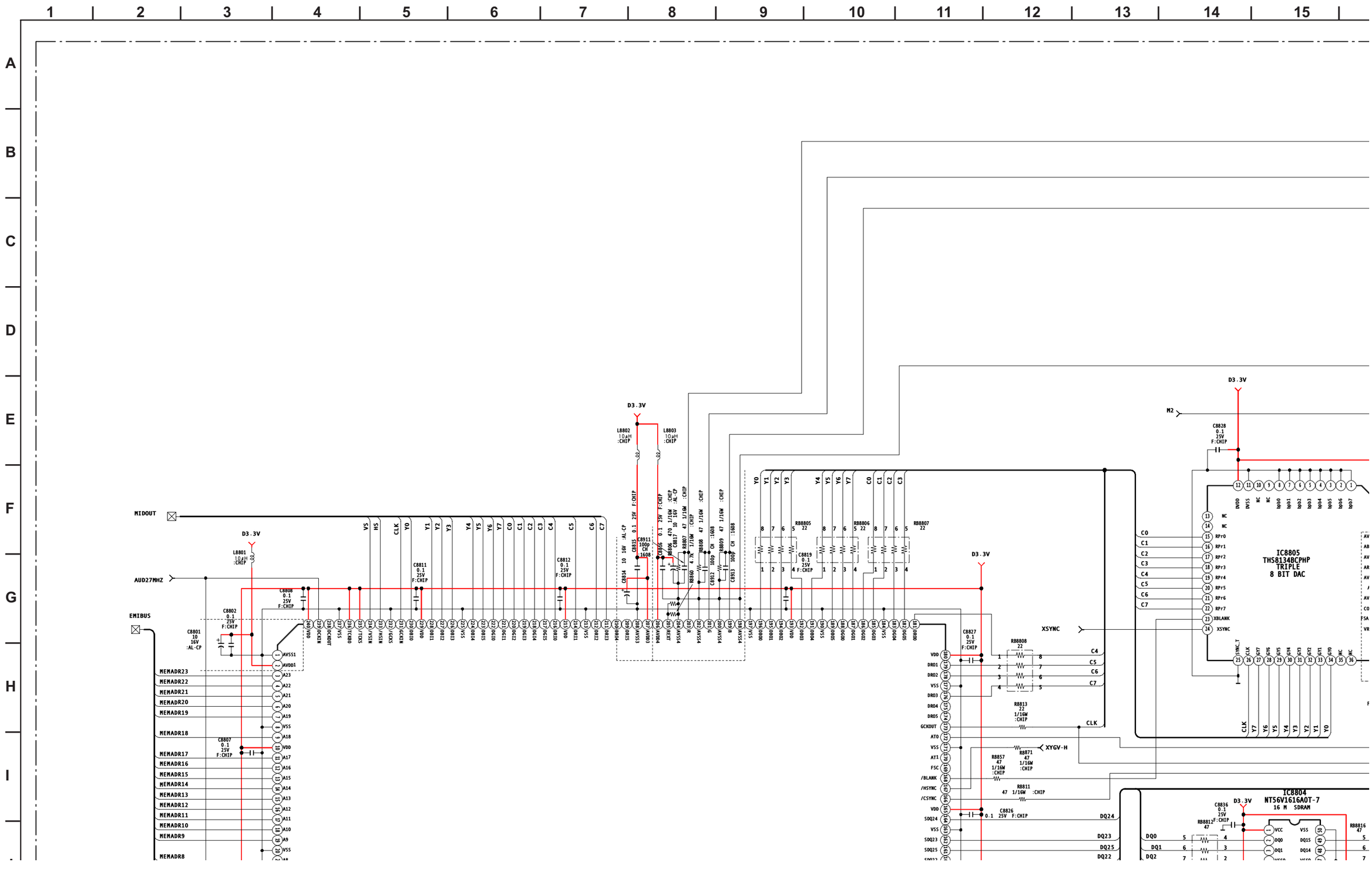
P

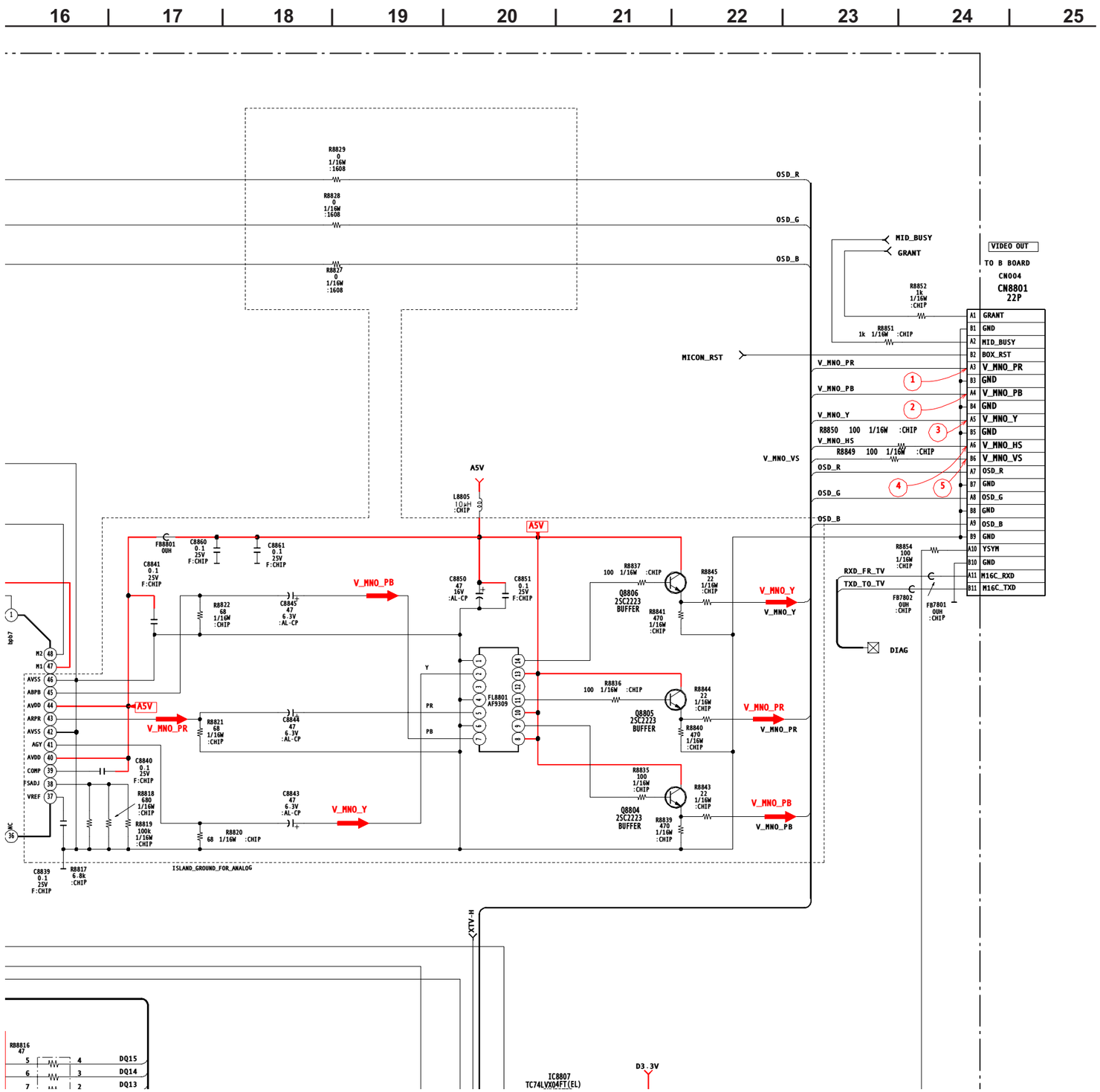
Y4
CLK
Y3
Y2
Y1
Y0
C7
C6
C5
R3
R2
R1
R0
C4
C3
C2
C1
C0
DTVYIN5
DTVYIN4
VDD1
VSS
DTVCLKIN
OVSS2
DTVYIN3
DTVYIN2
DTVYIN1
DTVYIN0
DTVCIN7
DTVCIN6
DTVCIN5
AUXCIN3
AUXCIN2
AUXCIN1
AUXCIN0
DTVCIN4
DTVCIN3
DTVCIN2
DTVCIN1
DTVCIN0
DTVVSYNC
DTVHLD
DTVYCLVL
DTVCLAMP
DTVCLKOUT
VDD2
VSS
DTVHSYNC
XORCVS
XORCHS
DRCCB1N7
DRCCB1N6
DRCCB1N5
DRCCB1N4
DRCCB1N3
DRCCB1N2
DRCCB1N1
VDD2
VSS
DRCCB1N0
DRCCR1N7
DRCCR1N6
DRCCR1N5
DRCCR1N4
VDD1
DRCCR1N3
DRCCR1N2
DRCCR1N1
DRCCR1N0
VSS
DRCYIN7
DRCYIN6
DRCYIN5
DRCYIN4
DRCYIN3
VDD1
DRCDCLK
OVSS1
DRCYIN2
DRCYIN1
DRCYIN0
VDD1
VSS
DSPY7
DSPY6
DSPY5
DSPY4
DSPY3
DSPY2
DSPY1
DSPY0
DSPCB7
DSPCB6
VDD2
VSS
DSPCB5
DSPCB4
DSPCB3
DSPCB2
DSPCB1
AVCLDSP
DXT2OUT
XTST
DSPCLK
VSS
VDD1
DXT2IN
OVSS3
XDSPYS
XDSPVS
XDSPHS
DSPCR0
DSPCR1
DSPCR2
DSPCR3
VSS
VDD2
DSPCR4
DSPCR5
DSPCR6
DSPCR7
DSPCB0
2.5V
2.5V
C8706
10
6.3V
B:CHIP
R8714
10k
1/16W
:CHIP
C8713
0.1
25V
F:CHIP
C8715
0.1
25V
F:CHIP
C8716
0.1
25V
F:CHIP
C8718
0.1
25V
F:CHIP
C8720
0.1
25V
F:CHIP
RB8703
22
RB8705
22
RB8707
22
RB8709
22
VS
HS
DRCOUT
VS HS CB7 CB6 CB5 CB4 CB3 CB2 CB1 CB0 CR7 CR6 CR5 CR4 CR3 CR2 CR1 CR0 Y7 Y6 Y5 Y4 Y3 CLK Y2 Y1 Y0
Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0 C7 C6 C5 C4 C3 C2 C1 C0



QM BOARD 7/9
MID-XA

QM BOARD SCHEMATIC DIAGRAM (8 OF 9)




16
17
18
19
20
21
22
23
24
25
OSD_R
OSD_G
OSD_B
MID_BUSY
GRANT
VIDEO OUT
TO B BOARD
CN004
CN8801
22P
MICON_RST
V_MNO_PR
V_MNO_PB
V_MNO_Y
V_MNO_HS
V_MNO_VS
A5V
RXD_FR_TV
TXD_TO_TV
DIAG
FL8801
AF9309
Q8806
2SC2223
BUFFER
Q8805
2SC2223
BUFFER
Q8804
2SC2223
BUFFER
ISLAND_GROUND_FOR_ANALOG
XTV-H
IC8807
TC74LVX04FT(EL)
D3.3V
DQ15
DQ14
DQ13

IC8801
YGV619
GRAPHICS

YGVCTRL

XYGVRST
XYGVCSIO
XYGVCSMEM
XYGVDREQ
XYGVWAIT
XYGVIRQ
MEMDAT31
MEMDAT30
MEMDAT29
MEMDAT28
MEMDAT27
MEMDAT26
MEMDAT25
MEMDAT24
MEMDAT23
MEMDAT22
MEMDAT21

MEMADR8
MEMADR7
MEMADR6
MEMADR5
MEMADR4
MEMADR3
MEMADR2
XMEMBE3
XMEMBE2
XMEMBE1
XMEMBE0
XYGVRD

C8806 0.1 25V F:CHIP
C8805 0.1 25V F:CHIP
C8804 0.1 25V F:CHIP
C8803 0.1 25V F:CHIP

D3.3V

A9 A8 A7 A6 A5 A4 A3 A2 A1/WR3 /WR2 /WR1 /WR0 /RD /RESET /CSREG /CSMEM LWD /LEND /SYCKS /DREQ /READY /WAIT /INT D31 D30 D29 D28 D27 D26 D25 D24 D23 D22 D21 VDD VSS

MEMDAT20 MEMDAT19 MEMDAT18 MEMDAT17 MEMDAT16 MEMDAT15 MEMDAT14 MEMDAT13 MEMDAT12 MEMDAT11 MEMDAT10 MEMDAT9 MEMDAT8 MEMDAT7 MEMDAT6 MEMDAT5 MEMDAT4 MEMDAT3 MEMDAT2 MEMDAT1 MEMDAT0

C8810 0.1 25V F:CHIP
C8813 0.1 25V F:CHIP
C8818 0.1 25V F:CHIP
C8820 0.1 25V F:CHIP
C8821 0.1 25V F:CHIP
R8810 22 1/16W :CHIP

SDQ23 SDQ25 SDQ22 SDQ26 SDQ21 SDQ27 SDQ20 SDQ28 SDQ19 SDQ29 SDQ18 SDQ30 SDQ17 SDQ31 SDQ16 DQM3 DQM2 SA4 SA3 SA5 SA2 SA7 SA6 SA1 SA0 SA8 SA10 SA9 SA12 SBA0 SA11 SBA1 /SCS /RAS /CAS /WE DQM1 SCLK SCKE SDCLK SDQM0 DQ0 DQ15 DQ1 DQ14 DQ2 DQ13 DQ3 DQ12 DQ4 DQ11 DQ5 DQ10 DQ6 DQ9 DQ7 DQ8 DQM0

C8825 0.1 25V F:CHIP
C8824 0.1 25V F:CHIP
C8823 0.1 25V F:CHIP

DQ25 DQ22 DQ26 DQ21 DQ27 DQ20 DQ28 DQ19 DQ29 DQ18 DQ30 DQ17 DQ31 DQ16 DQM3 DQM2 SA4 SA3 SA5 SA2 SA7 SA6 SA1 SA0 SA8 SA10 SA9 SA11 CS RAS

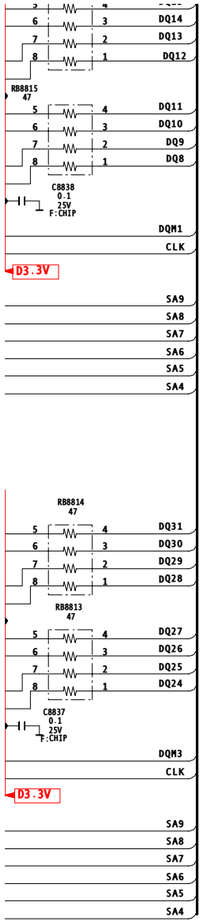
RB8811 47
RB8815 47
RB8810 47
RB8809 47

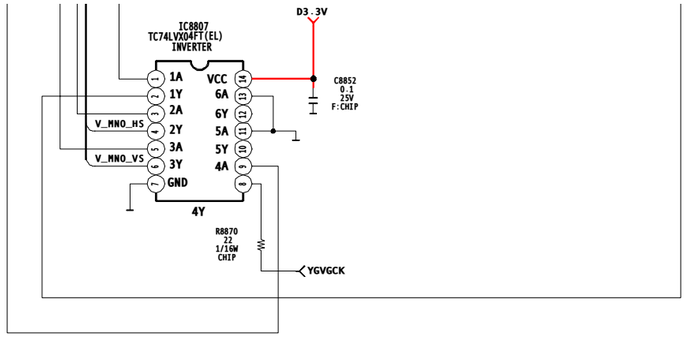
C8835 0.1 25V F:CHIP
C8834 0.1 25V F:CHIP
C8833 0.1 25V F:CHIP
C8832 0.1 25V F:CHIP
C8831 0.1 25V F:CHIP
C8830 0.1 25V F:CHIP
C8829 0.1 25V F:CHIP

DQ1 DQ2 DQ3 DQ4 DQ5 DQ6 DQ7 DQM0 WE CAS RAS CS SA11 SA10 SA0 SA1 SA2 SA3 DQ16 DQ17 DQ18 DQ19 DQ20 DQ21 DQ22 DQ23 DQM2 WE CAS RAS CS SA11 SA10 SA0 SA1 SA2 SA3

IC8803
NT56V1616AAOT-7
16 M SDRAM

DQ0 DQ15 DQ1 DQ14 DQ2 DQ13 DQ3 DQ12 DQ4 DQ11 DQ5 DQ10 DQ6 DQ9 DQ7 DQ8 DQM0 WE DQM1 CAS CLK



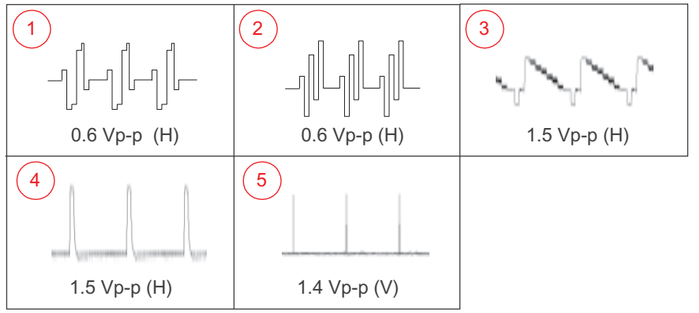


QM BOARD 8/9

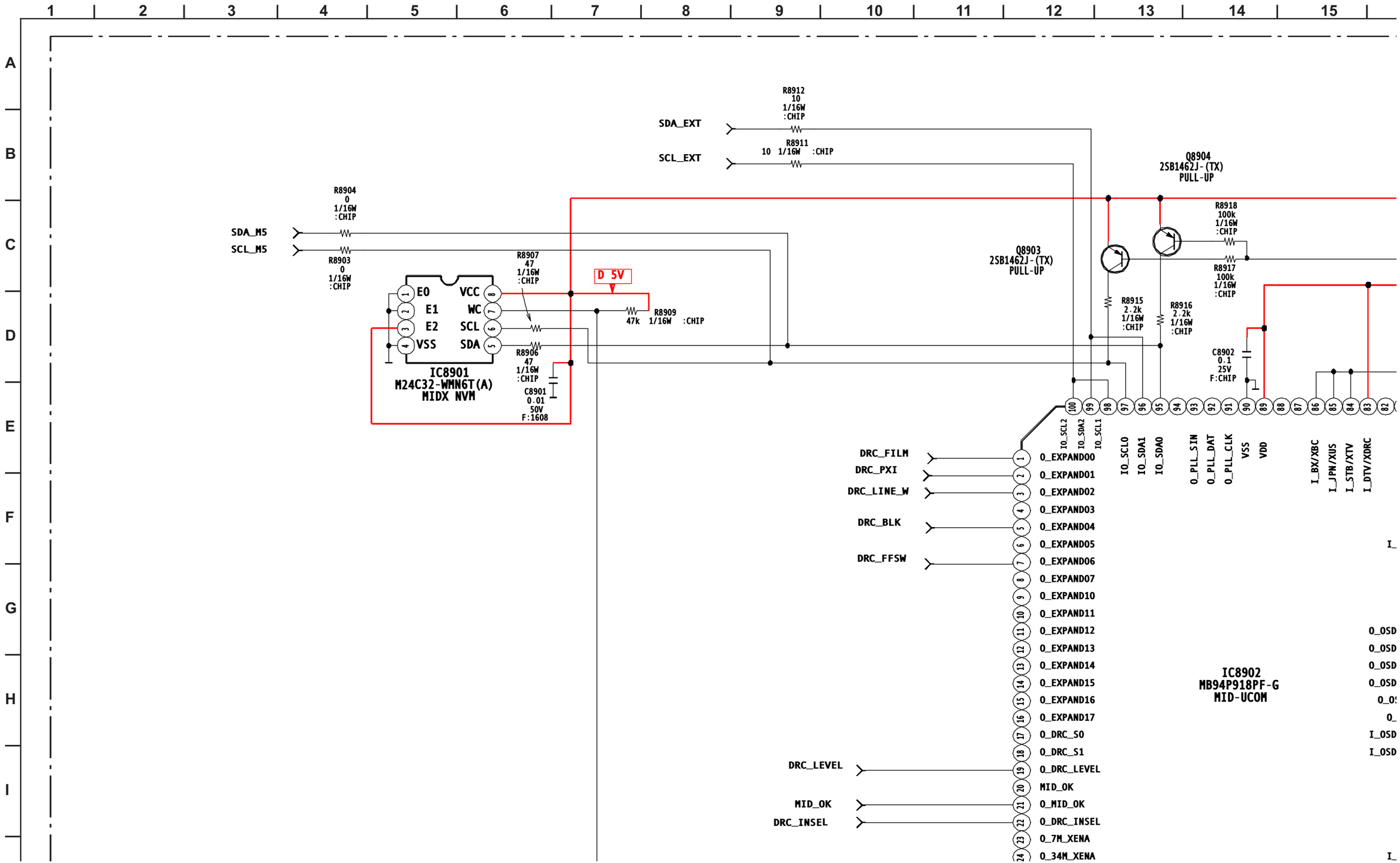
YGV

GRAPHICS

QM BOARD WAVEFORMS (SCHEMATIC 8 OF 9)



QM BOARD SCHEMATIC DIAGRAM (9 OF 9)



16 17 18 19 20 21 22 23 24 25 26 27 28

D 5V

D5V

82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57

I_AN_APL
AVDD
AVSS
I_OSD_ROUT
I_OSD_GOUT
I_OSD_BOUT
I_OSD_IOUT
O_OSD_VOB
O_BINT
I_OSD_HSYNC
I_OSD_VSYNC
I_XBINT

C8905 0.1 25V F:CHIP
L8906 4.7μH :CHIP
C8906 47 16V :AL-CP
C8907 47p 50V CH:CHIP
C8908 56p CH:CHIP
R8929 100 1/16W :CHIP

SUB_OSD

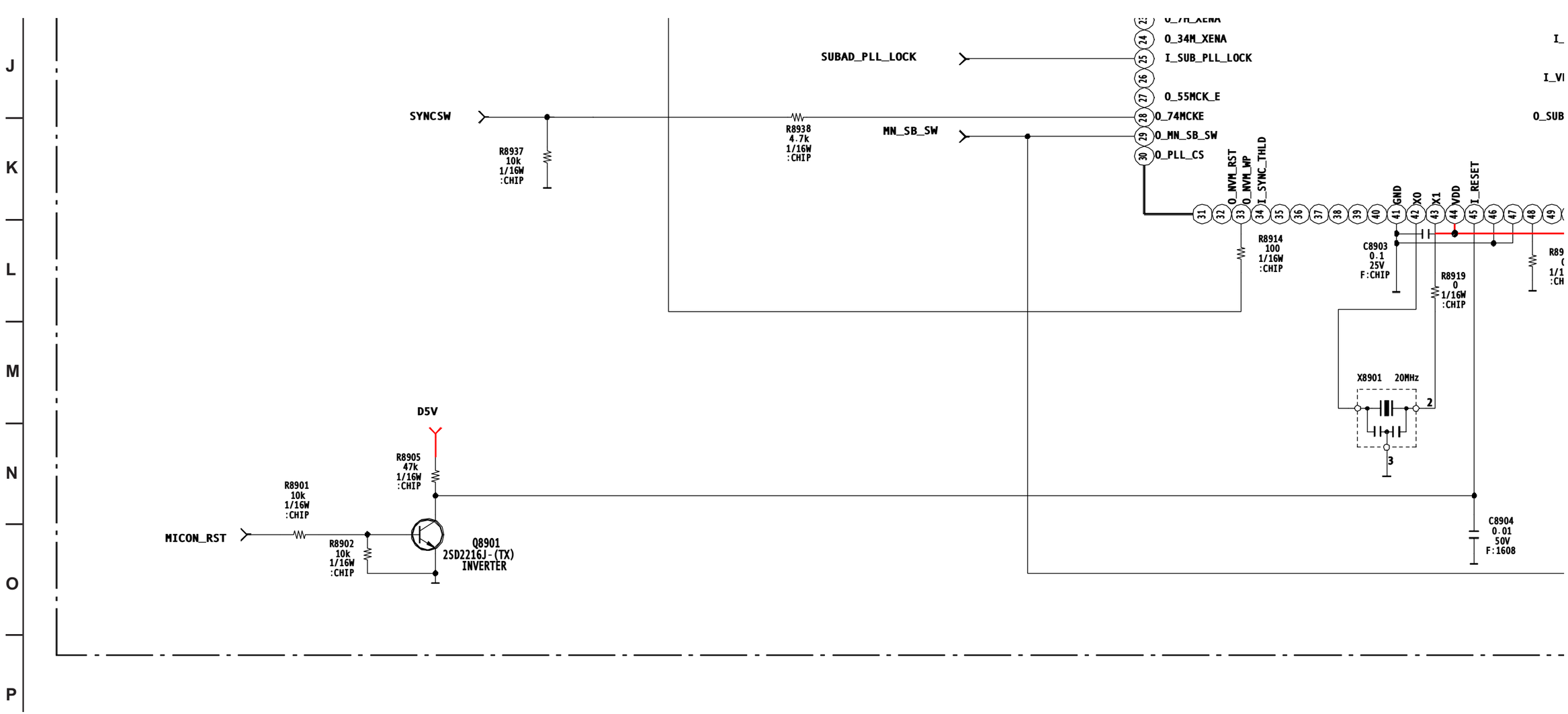
D 5V
R8932 22k 1/16W :CHIP
R8933 22k 1/16W :CHIP
C8909 0.1 25V F:CHIP
C8910 1 6.3V B:CHIP
R8930 4.7k 1/16W :CHIP
R8931 4.7k 1/16W :CHIP
D5V
R8928 10k 1/16W :CHIP
R8924 10k 1/16W :CHIP
R8921 100 1/16W :CHIP

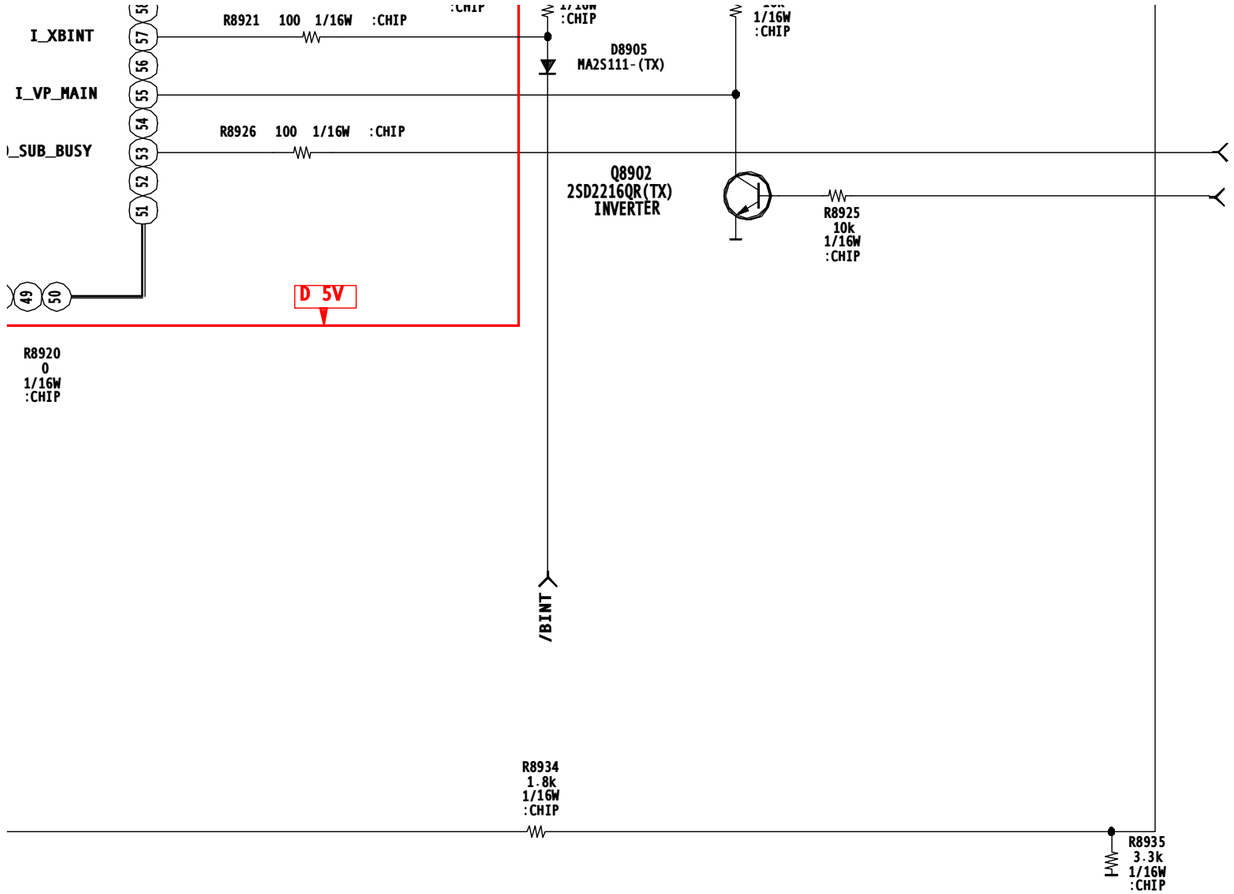
V_DRCI
OSD_HS
HS
OSD_VS
VS

D3.3V
C8914 0.1 25V F:CHIP

IC8903
TC74LVX157FT(EL)
SYNC SELECT

1	SEL	VCC	16
2	1A	XST	15
3	1B	4A	14
4	1Y	4B	13
5	2A	4Y	12
6	2B	3A	11
7	2Y	3B	10
8	GND	3Y	9


SUBAD_PLL_LOCK
SYNCSW
MN_SB_SW
R8937
10k
1/16W
:CHIP
R8938
4.7k
1/16W
:CHIP
24 O_34M_XENA
25 I_SUB_PLL_LOCK
26
27 O_55MCK_E
28 O_74MCKE
29 O_MN_SB_SW
30 O_PLL_CS
31 32 33 O_NVM_RST
O_NVM_WP
34 I_SYNC_THLD
35 36 37 38 39 40 41 GND
42 XO
43 X1
44 VDD
45 I_RESET
46 47 48 49
R8914
100
1/16W
:CHIP
C8903
0.1
25V
F:CHIP
R8919
0
1/16W
:CHIP
X8901 20MHz
2
3
C8904
0.01
50V
F:1608
D5V
R8905
47k
1/16W
:CHIP
R8901
10k
1/16W
:CHIP
MICON_RST
R8902
10k
1/16W
:CHIP
Q8901
2SD2216J-(TX)
INVERTER



QM BOARD 9/9

MID-UCOM

PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS

Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.

If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape ( ) mode.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like:
This tool will expand to reveal to additional tools.
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like:

2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.

3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee.

(continued >)

ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

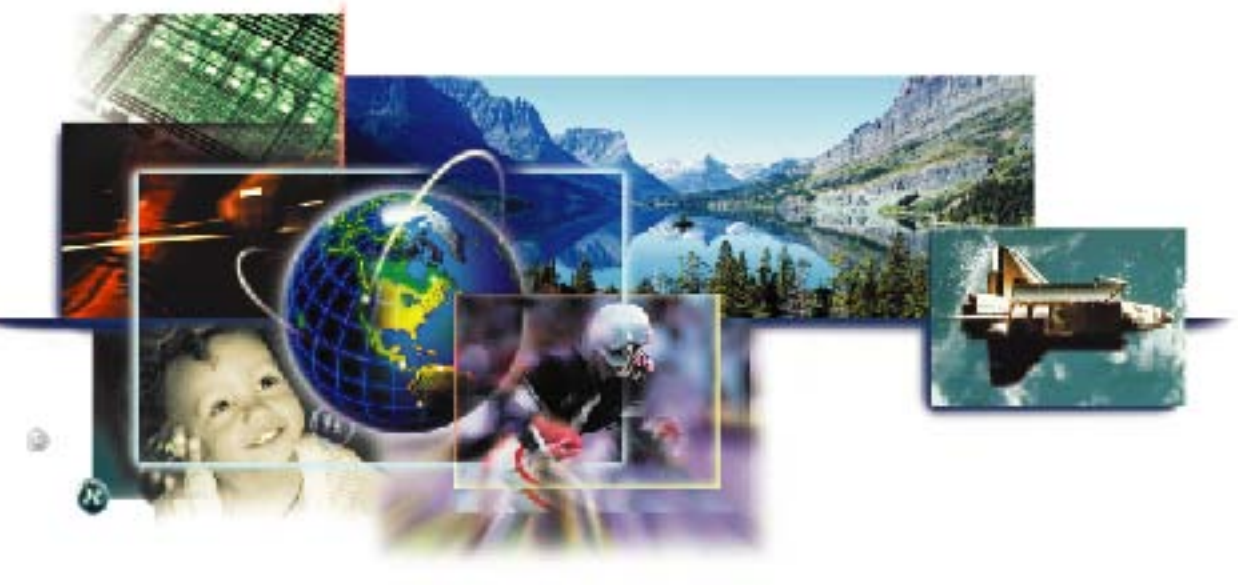
1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.

2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool

3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The “Find” window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the “Find” button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select “Find Again.”

SONY

4-083-273-21



Digital High Definition TV

Operating Instructions

XBR

© 2001 by Sony Corporation

KD-34XBR2

WARNING

To reduce the risk of fire or shock hazard, do not expose the TV to rain or moisture.

This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same program can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

Note on Cleaning the TV

Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

Note to CATV System Installer

This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster/cable company and/or program owner.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❑ Reorient or relocate the receiving antennas.
- ❑ Increase the separation between the equipment and receiver.
- ❑ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❑ Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety

- ❑ Operate the TV only on 120 V AC.
- ❑ The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- ❑ If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified service personnel before operating it further.

Installing

- ❑ To prevent internal heat buildup, do not block the ventilation openings.
- ❑ Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- ❑ The AC power cord is attached to the rear of the TV with hooks. Do not attempt to remove the cord from these hooks. Doing so could cause damage to the TV.

Owner's Record

The model and serial numbers are provided on the front of this instruction manual and at the rear of the TV. Refer to them whenever you call upon your Sony dealer regarding this product.

Trademark Information

TruSurround is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and is protected under United States Patent Nos. 4,748,669 and 4, 841, 572 with numerous additional issued and pending foreign patents. Purchase of this product does not convey the right to sell recordings made with the TruSurround technology.

Manufactured under license from Dolby Laboratories Licensing Corporation. Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

XBR and CineMotion are trademarks of Sony.

BBE and BBE Symbol are trademarks of BBE Sound, Inc. and are licensed by BBE Sound, Inc. under U.S. Patent No. 4,638,258 and 4,482,866.

i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connector. All products with an i.LINK connector may not communicate with each other.

As an ENERGY STAR® Partner, Sony has determined that this product or product models meets the ENERGY STAR® guidelines for energy efficiency.

ENERGY STAR® is a U.S. registered mark.

Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use and servicing of the set.

Use

Power Sources

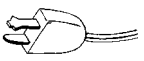
This set should be operated only from the type of power source indicated on the serial/model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).Follow the instructions below:

For the set with a polarized AC power cord plug

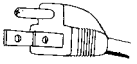
This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



Alternate Warning

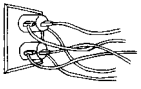
For the set with a three-wire grounding type AC plu g

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.



Overloading

Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.

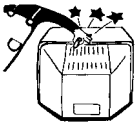


Always turn the set off when it is not being used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.

Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



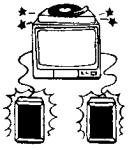
Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.

Installation

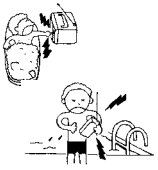
Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



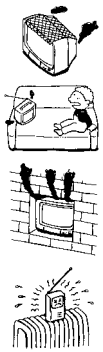
Accessories

Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult and serious damage to the set. Use only a cart or stand recommended by Sony for the specific model of TV. No part of the TV set should overhang any edge of the TV cart or stand; any overhanging edge is a safety hazard. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Ventilation

The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

- Never cover the slots and openings with a cloth or other materials.
- Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.
- Never place the set in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.
- Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.

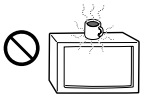


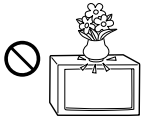
Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

About the Unit's High Glossy Finish

The unit surface is finished with high glossy paint. Due to the nature of this finish the following precautions must be observed to avoid discoloration, distortion and scratch marks.





- ❑ Do not bang the TV with any items or objects.
- ❑ Do not place any hot coffee cups and/or heavy items, such as a vase, on top of the TV. (Any water seepage may cause fire or electric shock.)

Antennas

Outdoor Antenna Grounding

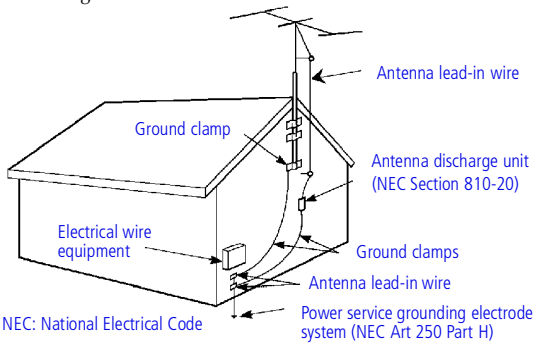
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC

Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.



Lightning

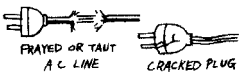
For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- ❑ When the power cord or plug is damaged or frayed.



- ❑ If liquid has been spilled into the set.
- ❑ If the set has been exposed to rain or water.

- ❑ If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.

- ❑ If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.

- ❑ When the set exhibits a distinct change in performance, it indicates a need for service.

Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

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Introducing the Digital TV (DTV)

Overview

This chapter gives an overview of the DTV features, defines the package contents, describes the remote control, and provides answers to frequently asked questions.

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Presenting the FD Trinitron Wega

The FD Trinitron Wega (pronounced VAY-GAH) is characterized by outstanding contrast, uncompromising accuracy, and corner-to-corner detail.

You'll recognize the superiority of Wega technology almost immediately. The first thing you'll notice is minimal glare from the flat picture tube. This flat-screen technology improves picture detail without distortion, unlike conventional curved screens. The FD Trinitron delivers outstanding image detail not only at the screen center, but also at the corners — so you can enjoy a bright, clear picture from any location in a room.

About the Unit's High Glossy Finish

The unit surface is finished with high glossy paint. Due to the nature of this finish the following precautions must be observed to avoid discoloration, distortion and scratch marks:

- Do not bang the TV with any items or objects.
- Do not place any hot coffee cups and/or heavy items, such as a vase, on top of the TV. (Any water seepage may cause fire or electric shock.)

Features

Some of the features that you will enjoy with your new DTV include:

- **Built-in Digital Television (DTV) Receiver:** You can watch digital television programs and enjoy the improved audio/video quality that these programs offer.
- **Wide Screen Mode:** Watch conventional 4:3 aspect ratio broadcasts in wide screen (16:9) mode.
- **DRC (Digital Reality Creation):** Unlike conventional line doublers, the DRC feature doubles vertical and horizontal lines, resulting in four times the density for quality sources such as DVD, satellite, and digital camcorder.
- **Twin View™:** Using the Multi-Image Driver (MIDX), Twin View allows you to watch two programs side by side, with the ability to zoom in one picture. You can watch pictures from two different sources (1080i, 720p, 480p, and 480i) simultaneously.
- **Program Guide:** Lets you select digital channels and subchannels and review program information from an on-screen list.
- **Scrolling Index:** Lets you to preview and select programs from a scrolling index of video pictures.
- **Favorite Channels**: Allows you to preview and select from 16 of your favorite channels.
- **Velocity Modulation:** Vertical line enhancement that sharpens picture definition.
- **Steady Sound:** Equalizes volume levels so there is consistent output between programs and commercials.
- **Parental Control:** V-Chip technology allows parents to block unsuitable programming for younger viewers.
- **Component Video Inputs:** Offers the best video quality for DVD (480p, 480i), and digital set-top box (HD1080i, 720p) connections.
- **S-VIDEO Inputs:** Provides a high-quality video signal from connected equipment.
- **CineMotion™:** Provides optimal picture quality for film-based sources (media originally shot in 24 frames-per-second format).
- **i.LINK:** Provides a secure digital interface to other digital home entertainment devices, including digital cable set-top boxes. i.LINK allows for the secure transfer of copyright-protected high-definition content between these devices and your digital television.

Package Contents

Along with your new digital TV, the package contains a remote control and two AA batteries. No additional cables are included. These items are all you need to set up and operate the DTV in its basic configuration.

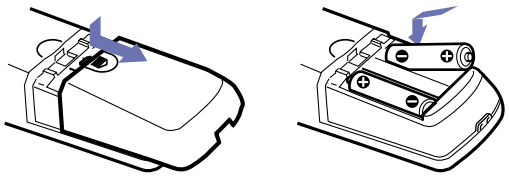
Most components (VCRs, DVD players, etc.) come with the necessary cables to connect them. If you want to set up a complex system, you may need to buy extra cables, connectors, etc. Be sure to have these on hand before you start to connect your system.

Using the Remote Control

Although some of the DTV's functionality can be controlled using buttons located on the front panel of the DTV (see page 10), you'll find the remote control to be more convenient while watching TV.

Inserting Batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the battery compartment.

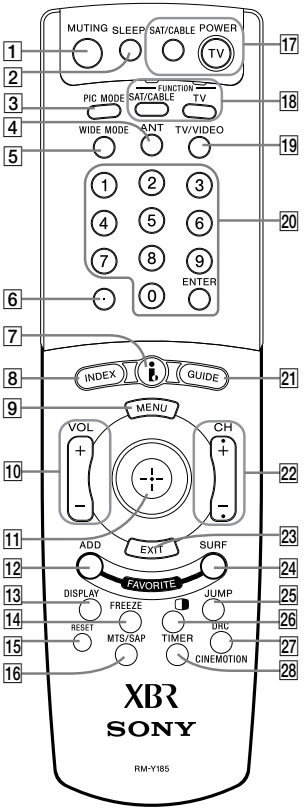


Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.

Handle the remote control with care; avoid dropping it, getting it wet, placing it in direct sunlight, near a heater, or where the humidity is high.

Button Descriptions

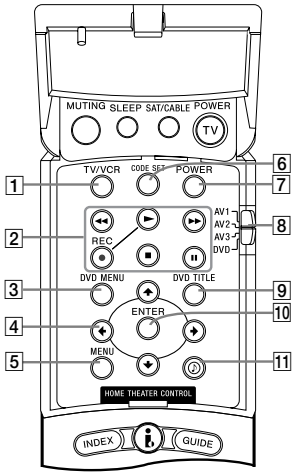
The following table describes the buttons on the remote control's outside and inside panels.



Outside Panel

Button	Description
1 MUTING	Press to mute the sound. Press again or press VOL+ to restore the sound.
2 SLEEP	Press repeatedly until the DTV displays the time in minutes (15, 30, 45, 60, or 90) that you want the DTV to remain on before shutting off automatically. Cancel by pressing until Sleep Off appears. While the Sleep feature is set, press once to view remaining time.
3 PIC MODE	Press repeatedly to step through the video picture modes: Vivid, Standard, Movie, Game, Pro. Also available in the Video menu. For details, see page 48.
4 ANT	Press to change between the VHF/UHF input and the CABLE input.
5 WIDE MODE	Press repeatedly to step through the Wide Mode settings: Wide Zoom, Normal, Full, Zoom. Also available in the Screen Mode menu. For details, see pages 39 and 52.
6 ·	Use with 0 – 9 and ENTER buttons to select subchannels (for example, 2.1). For details on selecting subchannels, see page 34.
7 i	Press to display the i.LINK Control Panel. There is also an i.LINK button on the front panel of the DTV (see page 10). For details on using the i.LINK Control Panel, see page 44.
8 INDEX	Press to display the Scrolling Index. For details, see page 35.
9 MENU	Press to display the DTV on-screen menu. Press again to exit from the menus. For details, see page 47.
10 VOL	Press to adjust the volume.
11	Move the joystick ←→↑↓ to move the on-screen cursor. To select an item, press the center of the joystick (⊕).
12 ADD FAVORITE	Press to add the current channel to the Favorite Channels list. For details, see page 36.
13 DISPLAY	Press once to display the channel number, channel label (if set), time, and other information. Press again to turn Display off.
14 FREEZE	Press to freeze the window picture. Press again to restore the picture. For details, see page 43.
15 RESET	Press while a menu is displayed (pages 47 to 62) to reset the settings to the factory defaults.

Button	Description
16 MTS/SAP	Press repeatedly to step through the Multi-channel TV Sound (MTS) options: Stereo, Auto SAP, and Mono. Also available in the Audio menu. For details, see page 51.
17 POWER buttons (GREEN)	Press to turn on and off the DTV and other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 64.
18 FUNCTION buttons (WHITE)	Press to select the equipment (SAT/CABLE or TV) that you want to operate. The indicator lights up momentarily when pushed to show which device the remote control is operating.
19 TV/VIDEO	Press repeatedly to step through the video equipment connected to your DTV's video inputs.
20 0 – 9 and ENTER	Press 0 - 9 to select a channel — the channel changes after 2 seconds. Press ENTER to select immediately.
21 GUIDE	Press to display the program guide. For details, see page 34.
22 CH	Press to scan through channels. To scan rapidly through channels, press and hold down either CH button.
23 EXIT	Press to exit the on-screen menu or display and return to normal viewing.
24 SURF FAVORITE	Press to display the Favorite Channels list. For details, see page 37.
25 JUMP	Press to jump back and forth between two channels. The DTV alternates between the current channel and the last channel that was selected.
26	Press to turn on and off Twin View. For details, see pages 40 to 42.
27 DRC CINEMOTION	Press repeatedly to step through the available high-resolution picture modes: Interlaced, Progressive and CineMotion. Also available in the Video menu. For details, see page 49.
28 TIMER	Press to program the DTV to turn on and off and tune to a specific channel at two scheduled viewing times (see page 45). Also available in the Setup menu (see page 62).



Inside Panel

You can access the following buttons by lifting up the outside panel.

Button	*Description*
1 TV/VCR	Press to change the VHF/UHF output of the VCR.
2 Transport Buttons	◀◀ Rewind
	▶ Play
	● Record (press together with ▶)
	■ Stop
	▶▶ Fast-forward
	❚❚ Pause (press again to resume normal playback)
3 DVD MENU	Press to display the DVD menu.
4 ←→↑↓	Press ←→↑↓ to move the on-screen cursor.
5 MENU	Press to display the DTV on-screen menu. Press again to exit from the menus.
6 CODE SET	Used for programming the remote control to operate non-Sony video equipment. For details, see "Programming the Remote Control" on page 64.
7 POWER	Press to turn on and off the DTV and other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 64.
8	Use to switch control for connected video equipment. You can program one video source for each switch position. For details, see "Programming the Remote Control" on page 64.
9 DVD TITLE	Press to display the DVD title.
10 ENTER	Press to select.
11 ♪	Press repeatedly to step through the Audio Effect options: TruSurround, Simulated, and Off. Also available in the Audio menu. For details, see page 50.

Frequently Asked Questions

What is digital TV (DTV)?

Digital television (or "DTV") refers to the over-the-air television broadcast standards adopted by the Federal Communications Commission in 1996. Developed by the Advanced Television Systems Committee (ATSC), a group of manufacturing companies, these standards define the specifications for 18 digital broadcast formats.

There are six formats in the ATSC DTV standard that are described as "High Definition Television." The remaining 12 video formats are described as "Standard Definition Television."

Although the technical aspects of these standards are transparent to television viewers, the benefits are as dramatic as those experienced when digital music on compact disk was introduced — probably even more so.

Your Sony DTV is capable of receiving all 18 formats of digital TV formats, including high-definition.

What are the benefits of DTV?

For the television viewer, digital TV represents one of the most significant advances in television since color television replaced black and white. Here are just a few of the benefits:

- Dramatically superior picture quality, with up to six times the picture detail of today's analog television.
- Multichannel digital sound, including Dolby® Digital sound.
- Widescreen. DTV can provide the same type of widescreen presentation as you see in movie theaters. The new screen size has a 16:9 width-to-height (or "aspect") ratio, compared with a 4:3 aspect ratio of today's conventional television. This means that digital broadcasts of movies no longer need to be "reformatted" for television.

Do I need a special antenna to receive digital television?

No. Initially, digital television will arrive through a standard, over-the-air VHF/UHF antenna, which means you can receive digital broadcasts using the same terrestrial ("rooftop") antenna you currently use to receive conventional programming. However, if you currently receive your VHF/UHF programming via cable, you will need to install a VHF/UHF antenna in order to receive digital programming. Your Sony DTV, however, is also equipped with connectors that may allow you to connect DTV-compatible cable boxes when they become available.

Can this TV receive conventional analog broadcasts that are available today?

Yes. This TV is designed to receive conventional analog broadcasts, cable TV, as well as all formats of digital broadcasts. Of course, you can also connect VCRs, DVD players, digital broadcast (satellite) receivers, and other audio/video components.

When is digital broadcasting being introduced?

The transition from today's analog broadcasting system to digital television will take time to complete. In the fall of 1998, some networks started to broadcast digital programs.

How can I select digital channels?

Digital channels are indicated by the use of a decimal or "dot" in the subchannel number (for example, "2.1"). This number appears when you press the CH +/- buttons or press the DISPLAY button. To select a subchannel directly, use the 0-9 buttons, · button, and the ENTER button.

For example, to select subchannel 2.1, press:

2 + · + 1 + ENTER

You can also select digital channels using an on-screen program guide. See page 34 for details.

Connecting and Setting Up the DTV

Overview

This chapter includes illustrated instructions for setting up your DTV.

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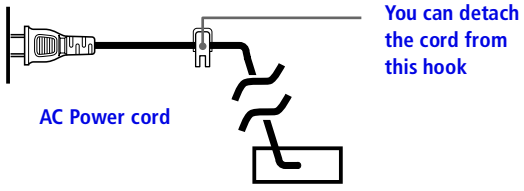
Note About the AC Power Cord

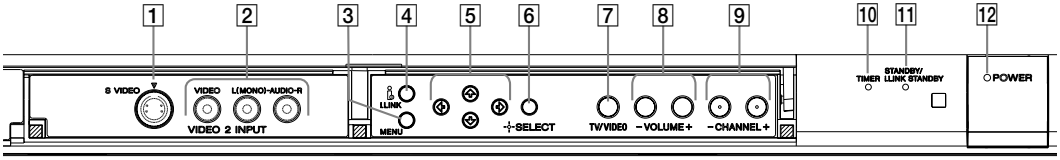
The AC power cord is attached to the rear of the DTV with a hook. Use caution when removing the AC plug from its holder. Gently slide the plug in the upward direction to remove from hook. Once removed, the AC power plug should automatically disengage from its stored location.



DTV Controls and Connectors

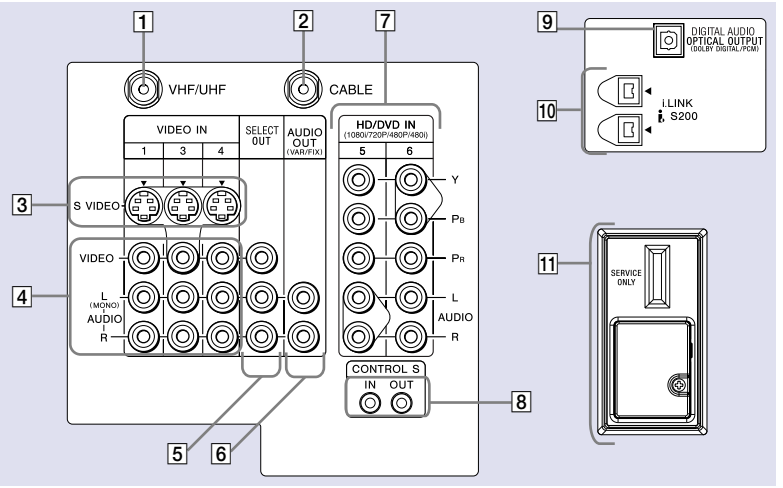
Front Panel Controls

The front panel provides convenient inputs for audio/video components you plan to connect temporarily, such as a camcorder or digital camera. It includes several buttons that you'll also find on the remote control.



Control		Description
1	S VIDEO 2 INPUT	Connects to the S VIDEO OUT jack of your camcorder or other S VIDEO-equipped video component. Provides better picture quality than the VHF/UHF jacks or the Video IN jack.
2	VIDEO 2 INPUT VIDEO/L(MONO)-AUDIO-R	Connect to the audio and video OUT jacks on your camcorder or other video component.
3	MENU	Press to display the DTV on-screen menu. Press again to exit from the menus. For details, see page 47.
4	i.LINK	Press to display the i.LINK Control Panel. For details on using the i.LINK Control Panel, see page 44.
5	←→↑↓	Press ←→↑↓ to move the on-screen cursor and press SELECT to select.
6	SELECT	Press to select the on-screen highlighted item.
7	TV/VIDEO	Press repeatedly to step through the video equipment connected to your DTV's video inputs.
8	-VOLUME+	Press to adjust the volume.
9	-CHANNEL+	Press to scan through channels.
10	TIMER	When lit, indicates one of the timers is set. For details, see pag e45.
11	STANDBY/ i.LINK STANDBY	When lit in orange, indicates that i.LINK Standby is On. When lit in red, indicates that i.LINK Standby is Off. For details, see page 61.
12	POWER	Press to turn on and off the DTV.

DTV Rear Panel



Connection		Description
1	VHF/UHF	Connects to your VHF/UHF antenna.
2	CABLE	Connects to your cable source.
3	S VIDEO IN 1/3/4	Connects to the S VIDEO OUT jack of your VCR or other S VIDEO-equipped video component. Provides better picture quality than the VHF/UHF jacks or the Video IN jack.
4	VIDEO IN 1/3/4 VIDEO/L(MONO)-AUDIO-R	Connect to the audio and video OUT jacks on your VCR or other video component. A 6th video input (VIDEO 2) is located on the front panel of the DTV. The Audio and Video IN jacks provide better picture quality than the VHF/UHF IN jack.
5	SELECT OUT	Connect to the audio and video IN jacks on your VCR or other video component. The output signal is determined by the SELECT OUT setting in the Setup menu (see page 60).
6	AUDIO OUT (VAR/FIX) L(MONO)-AUDIO-R	Connect to the left and right audio inputs of your audio or video component.
7	HD/DVD IN (1080i/720p/480p/480i) VIDEO IN 5/6	Connect to your DVD player's or digital set-top box's component video (Y, PB, PR) and audio (L/R) jacks.
8	CONTROL S IN/OUT	Allows the DTV to receive (IN) and send (OUT) remote control signals to other Sony infrared-controlled audio or video components.
9	DIGITAL AUDIO OPTICAL OUTPUT (DOLBY DIGITAL/PCM)	Connect to the optical audio input of an audio component that is Dolby Digital and PCM compatible.
10	i.LINK S200	Used for connecting i.LINK equipped devices.
11	Service Only	For Sony service use only.

Basic Connections

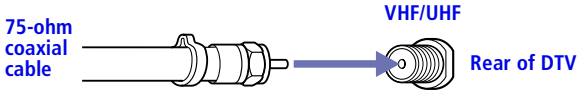
This section describes how to connect a VHF/UHF antenna, CATV cable, and CATV cable box.

Connecting a VHF/UHF Antenna

The connection you choose depends on the type of VHF/UHF antenna you have in your home.

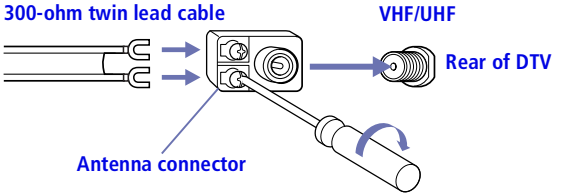
Newer homes are usually equipped with 75-ohm coaxial cable:

VHF Only or VHF/UHF



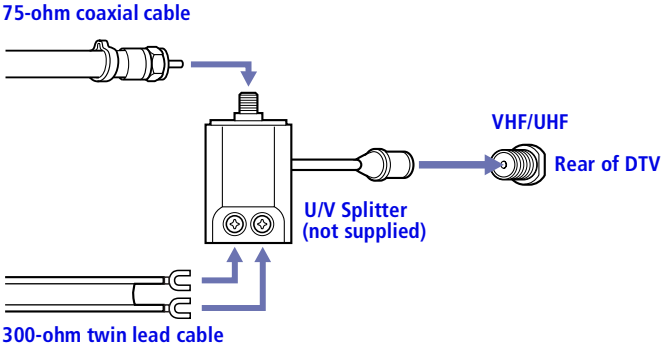
Older homes may have 300-ohm twin lead cable:

VHF Only or UHF Only or VHF/UHF



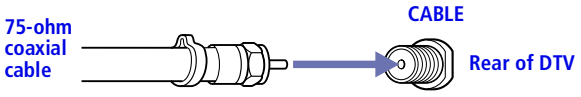
Some homes may have both 75-ohm coaxial and 300-ohm twin lead cables:

VHF and UHF

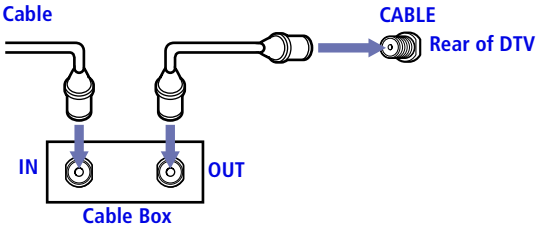


Connecting a CATV Cable or a CATV Cable Box

CATV Cable



CATV Cable Box



Connecting a VCR and Cable

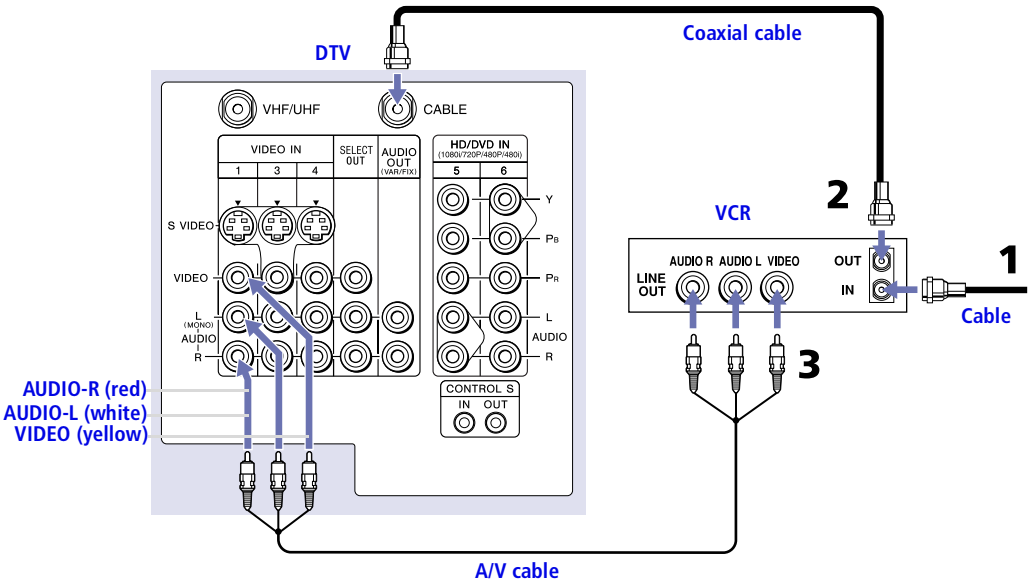
Use this hookup if you have cable TV that does not require a cable box.

1 Connect the cable TV cable to the VCR's IN jack.

2 Using a coaxial cable, connect the VCR's OUT jack to the DTV's CABLE jack.

3 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the DTV's Audio and Video IN jacks.

If the VCR you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because an S VIDEO cable carries only the video signal, you will also need audio cables for sound.



Connecting a VCR and Cable Box

Use this hookup if

- Your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), so you need to use a cable box
- You want to use the Twin View or Scrolling Index feature.

With this setup you can

- Use the DTV remote control to change channels using your cable box when the signal is scrambled.
- Use the DTV remote control to change channels using your DTV when the signal is not scrambled. (Your DTV's tuner provides a better signal than the cable box.)
- Use the Twin View and Scrolling Index features.
- Record both regular cable TV and scrambled channels.

To connect a cable box and a VCR, you will need

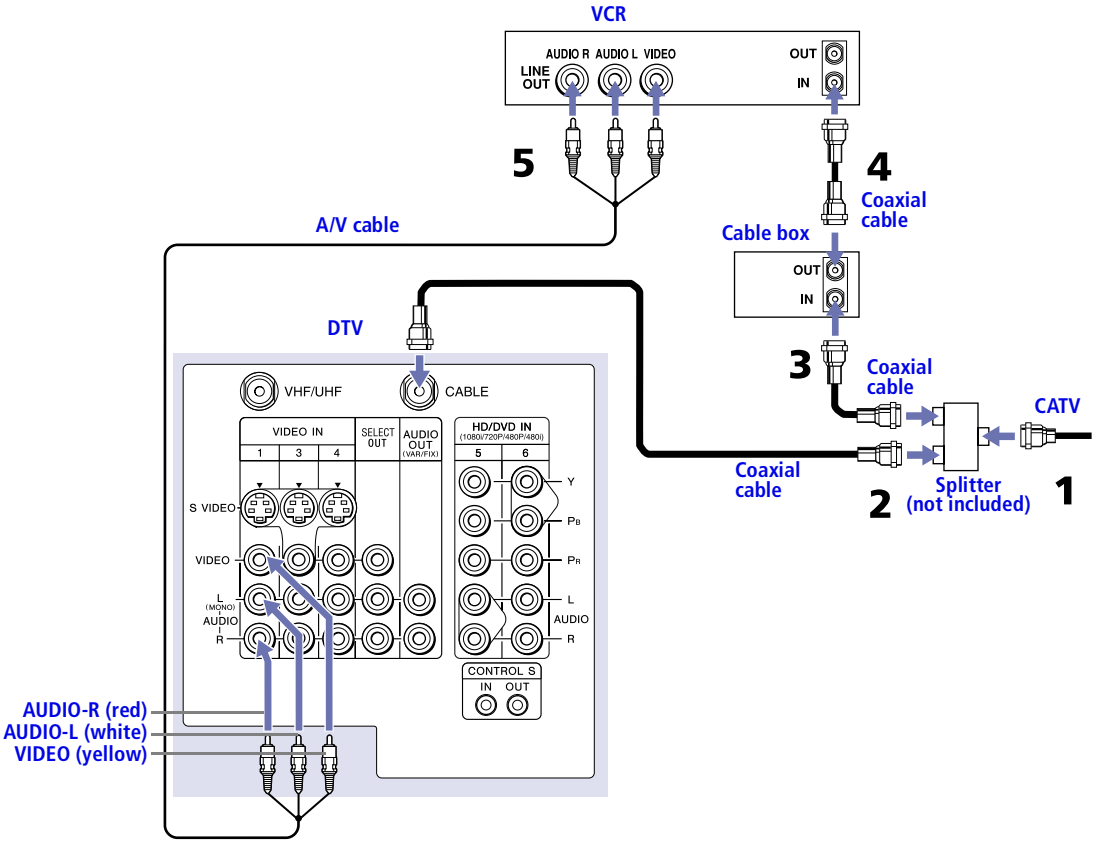
- A small inexpensive device known as a splitter.
- Three short coaxial cables.
- Either a combination audio/video cable, or an S VIDEO cable and audio cables.

1. Connect the CATV cable to the single (input) jack of the splitter.
2. Use a coaxial cable to connect one of the two output jacks of the splitter to the DTV's CABLE jack.
3. Use a coaxial cable to connect the other output jack of the splitter to the input jack of the cable box.
4. Use a coaxial cable to connect the output jack of the cable box to the input jack of the VCR.
5. Use the video line (yellow) of a combination audio/video (A/V) cable to connect the video output jack of the VCR to the video input jack of the DTV.

   ✍ If your VCR has an S VIDEO jack, you can substitute an S VIDEO cable for the video line of an A/V cable. The S VIDEO cable will provide improved video signal quality.

6. Connect the left (white) and right (red) audio output channels of the VCR to the respective input jacks on the DTV.

(Continued on the next page)



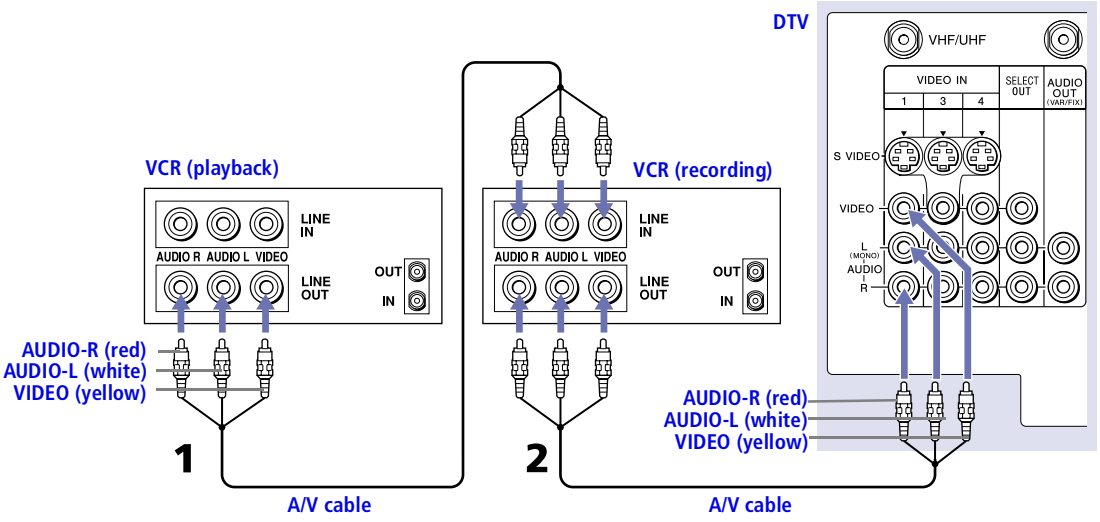
✍ **IMPORTANT** - To use the Twin View or Scrolling Index feature or to watch premium (scrambled) channels the **VCR MUST BE TURNED ON**; otherwise, you will be unable to view them.

Connecting Two VCRs for Tape Editing

Connecting two VCRs together, then into the DTV, allows you to switch between the two to be sure that what you are playing on one is recording on the other.

1 Using an A/V cable, connect the playback VCR's Audio and Video OUT jacks to the recording VCR's Audio and Video IN jacks.

2 Using an A/V cable, connect the recording VCR's Audio and Video OUT jacks to the DTV's Audio and Video IN jacks.



3 If necessary, change the video input on your VCR. (For details, see your VCR's instruction guide.)

To do tape editing

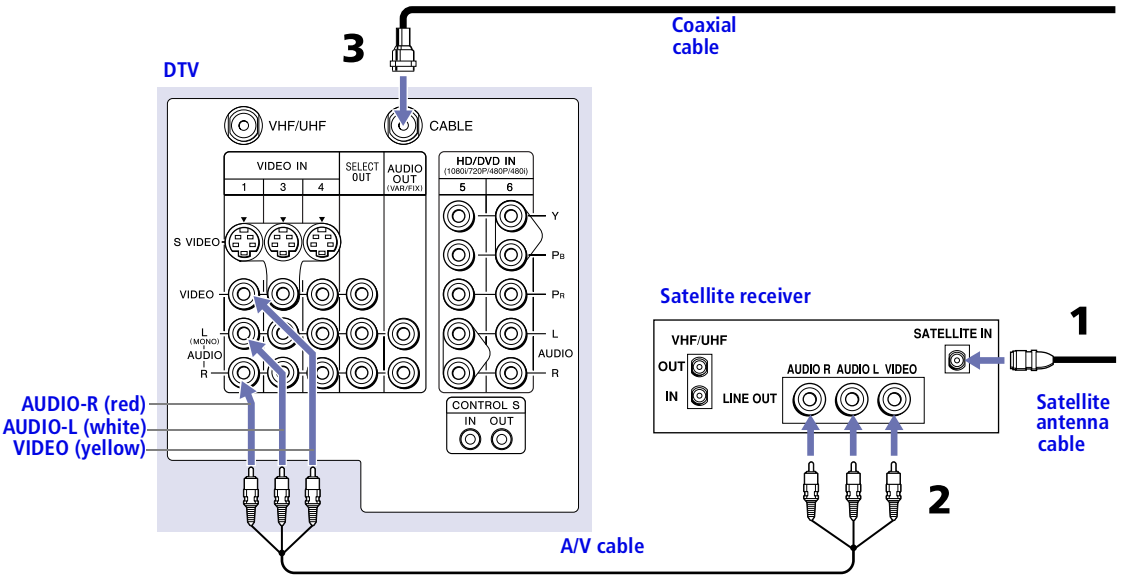
❑ Set the DTV to the video input intended for playback by pressing the TV/VIDEO button on the remote control.

✍ If the VCRs you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

Connecting a Satellite Receiver

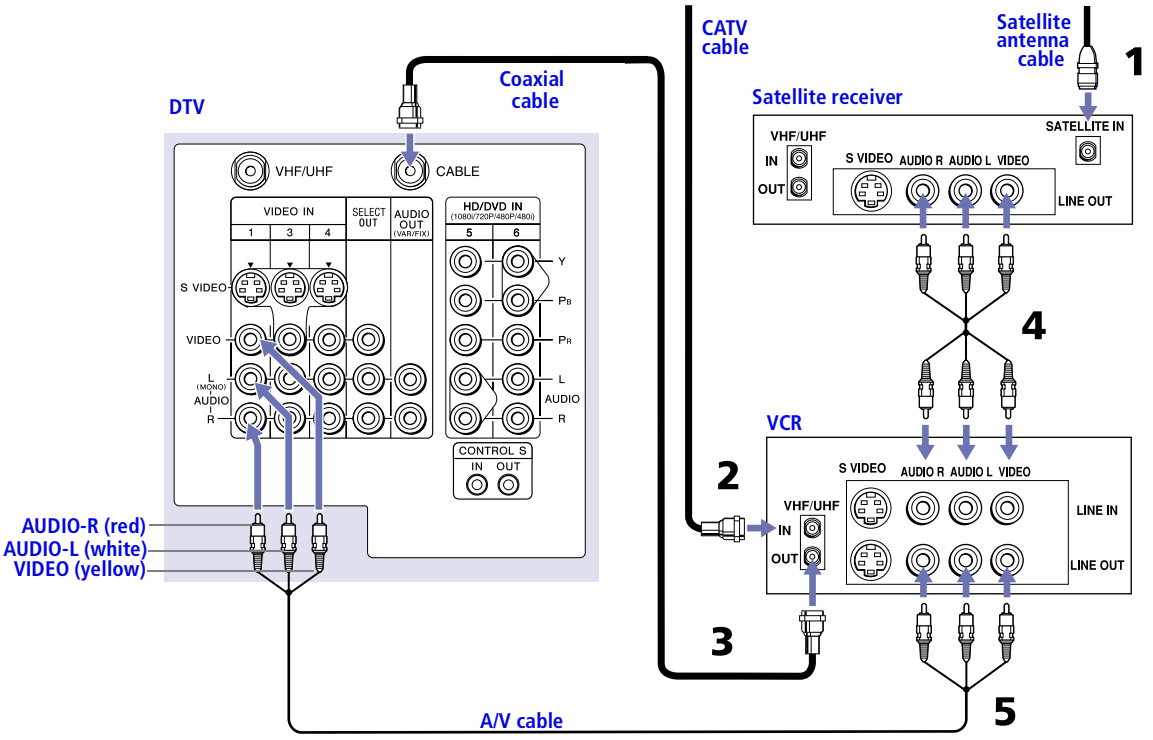
1. Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
2. Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the DTV's Audio and Video IN jacks.
3. Connect a coaxial cable from your cable or antenna to the DTV's CABLE jack.

If the receiver you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.



Connecting a Satellite Receiver with a VCR

1. Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
2. Connect the CATV cable to the VCR's VHF/UHF IN jack.
3. Using a coaxial cable, connect the VCR's OUT jack to the DTV's CABLE jack.
4. Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the VCR's Audio and Video IN jacks.
5. Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the DTV's Audio and Video IN jacks.
6. If necessary, change the video input on your VCR. (For details, see your VCR's instruction guide.)



If the peripherals you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to combination audio/video cables). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

(Continued on the next page)

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To watch satellite TV, or the VCR

- Press TV/VIDEO on the remote control to select the video input. (The DTV must be turned on.)

To watch cable TV

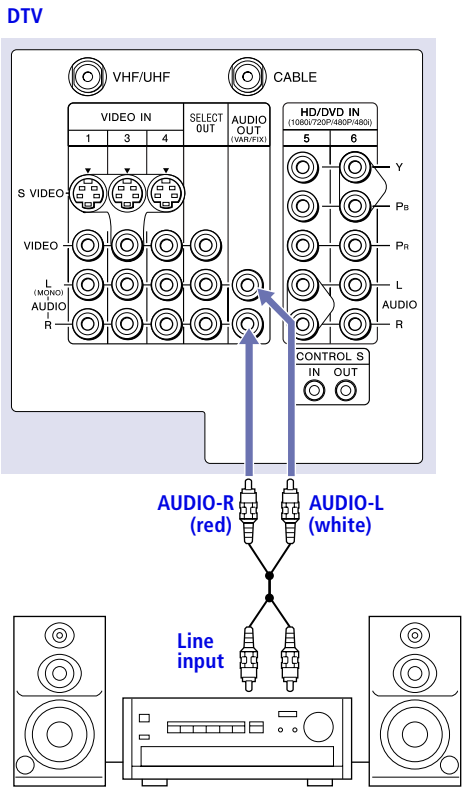
- Press TV/VIDEO on the remote control to select Cable. (The DTV must be turned on.)

Connecting an Audio Receiver

For better sound quality, you may want to connect your DTV to your stereo system's audio receiver.

To connect to an audio receiver

❑ Use audio cables to connect the DTV's Audio OUT jacks to the audio receiver's audio LINE IN jacks.



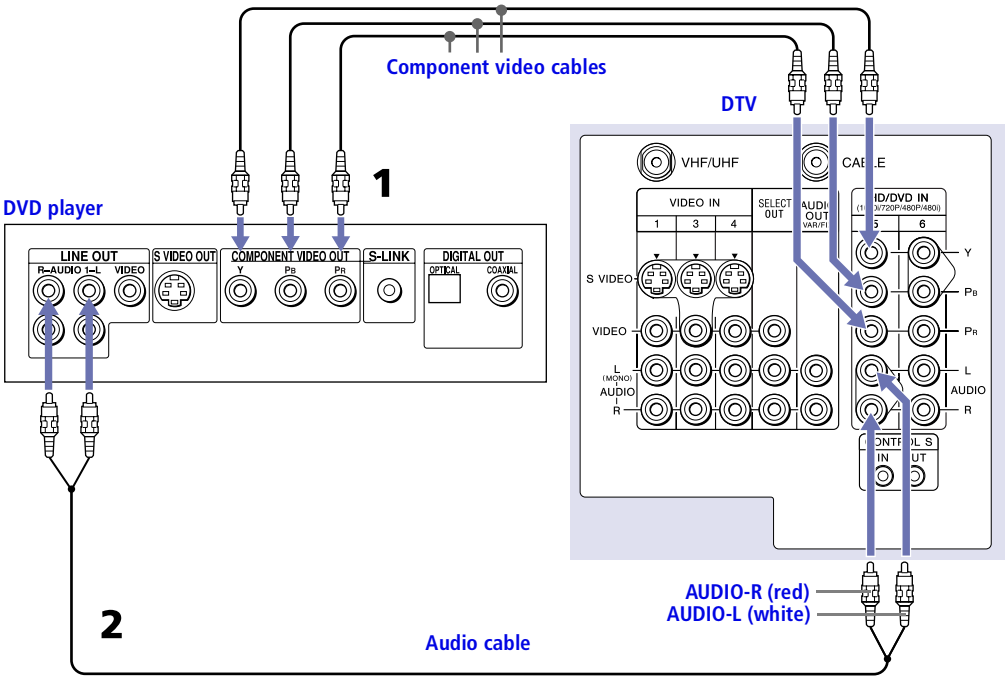
Connecting a DVD Player with Component Video Connectors

This is the preferred hookup to use if your DVD player has component video out jacks.

1 Using three separate component video cables, connect the DVD player's Y, P_B and P_R jacks to the Y, P_B and P_R jacks on the DTV. Use the HD/DVD IN 5 or 6 connections.

✍ The Y, P_B and P_R jacks on your DVD player are sometimes labeled Y, C_B and C_R, or Y, B-Y and R-Y. If so, connect the cables to like colors.

2 Using an audio cable, connect the DVD player's Audio OUT jacks to the DTV's Audio IN jacks. Be sure to use the same column of inputs that you used for the video connection (HD/DVD IN 5 or 6).



✍ You cannot record the signal from any equipment connected into the Y, P_B, P_R jacks.

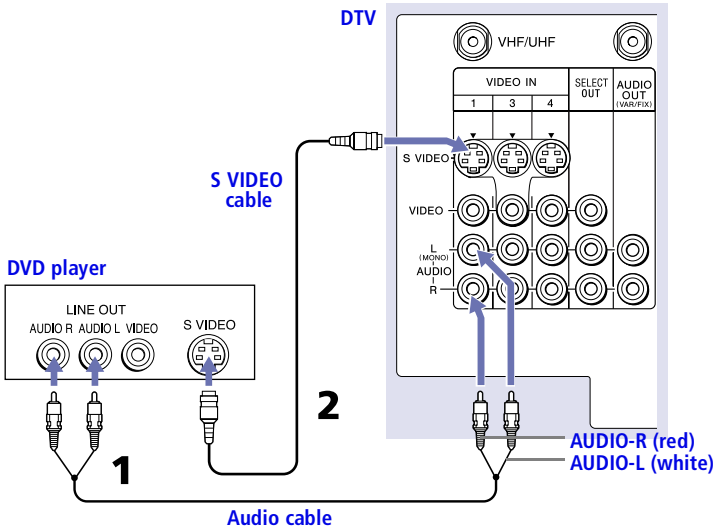
Connecting a DVD Player with A/V Connectors

Use this hookup if your DVD player does not have component video out jacks (as shown on page 22).

✍ An S VIDEO connection will give a good-quality video signal, but if your DVD player has component video, that connection (described on page 22) will give an even better signal.

1 Using audio cables, connect the DVD player's Audio OUT jacks to the DTV's Audio IN jacks.

2 Using an S VIDEO cable, connect the DVD player's S VIDEO jack to the DTV's S VIDEO jack.



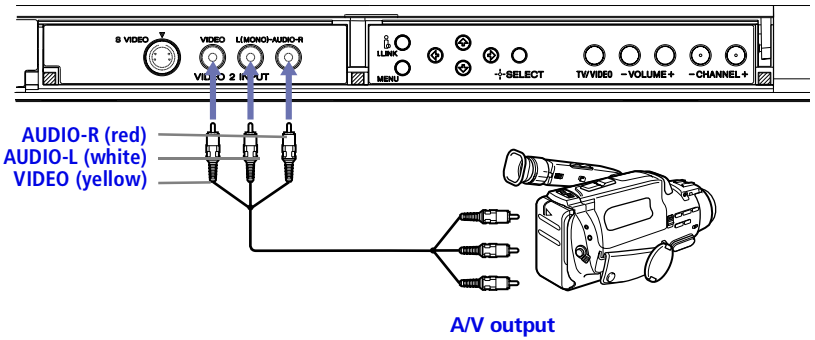
To switch between your DTV, VCR and DVD

❑ Use the TV/VIDEO button on the DTV's remote control to switch from one input device to another.

Connecting a Camcorder

For easy connection of the camcorder, the DTV has front Audio and Video inputs (shown below). If you prefer, you can connect the camcorder to the DTV's rear Audio and Video IN jacks.

- Using A/V cables, connect the camcorder's Audio and Video OUT jacks to the DTV's Audio and Video IN jacks.



A/V output

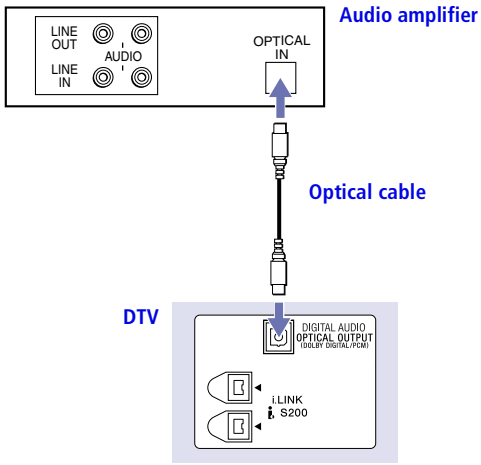
If you have a mono camcorder, connect its audio output to the DTV's AUDIO L jack.

✍ If the camcorder you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

Connecting a Device with an Optical IN Connector

You can use the DTV's DIGITAL AUDIO OPTICAL OUTPUT jack to connect an audio device that is Dolby Digital and PCM compatible, such as an audio amplifier.

- Using an optical cable, connect the device's OPTICAL IN jack to the DTV's DIGITAL AUDIO OPTICAL OUTPUT jack.



✍ You might also want to connect the DTV's analog audio out connectors to the amplifier's analog audio in connectors, as described on page 21.

Connecting i.LINK Compatible Devices

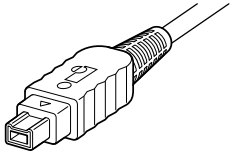
This DTV is equipped with i.LINK, which provides a secure digital interface to other digital home entertainment devices, including digital cable set-top boxes. i.LINK allows for the secure transfer of copyright-protected high-definition content between these devices and your digital television.

✍ At the time this DTV went to market, the Sony digital cable set-top box (DHG-M55CV) is the only i.LINK device that is verified to be compatible with this DTV.

For more information about i.LINK, see "About i.LINK" on page 69.

Using i.LINK Cables

This DTV has two 4-pin S200 i.LINK terminals. You can use any of the following i.LINK cables with the DTV:



4-pin i.LINK cable

Sony Model Number	Length
VMC-IL4415	1.5 meters
VMC-IL4435	3.5 meters

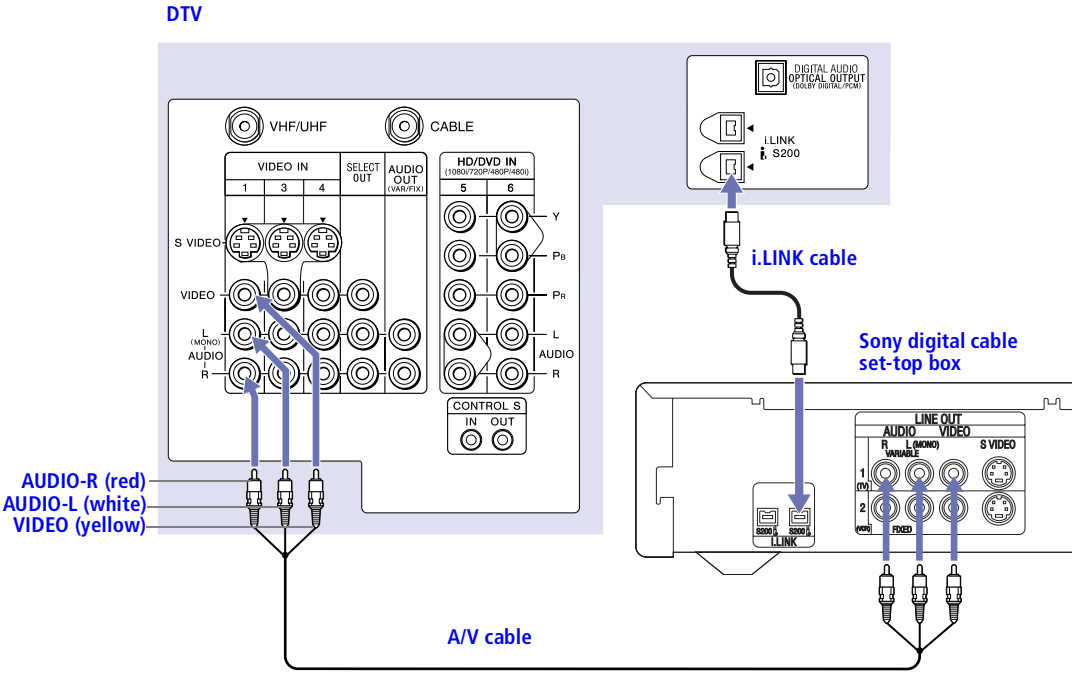
✍ Do not use cables other than the ones listed above.

Connecting Cables

✍ Before connecting this unit to i.LINK-compatible equipment, see the instruction manual of the i.LINK device to be connected.

1 Using an A/V cable, connect the i.LINK device's Audio and Video OUT jacks to the DTV's Audio and Video IN jacks.

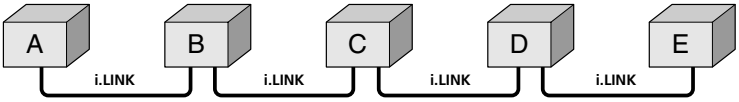
2 Using an i.LINK cable (see page 26), connect the device's i.LINK jack to either of the DTV's i.LINK jacks.



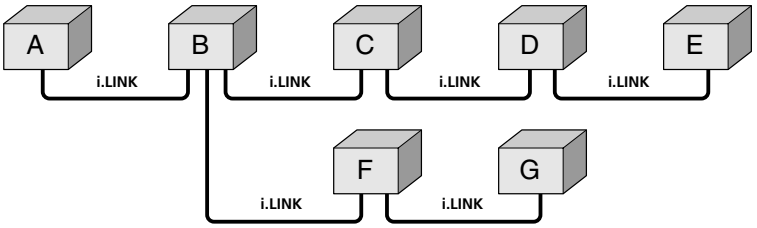
✍ i.LINK devices can be "hotplugged" (connected and disconnected while they are still powered on). The DTV automatically recognizes the device and displays the screen shown on pag e29.

Notes on Connecting i.LINK Devices

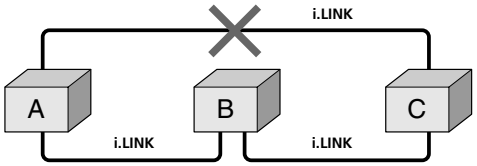
- To connect two or more i.LINK-capable devices, use i.LINK cables to connect them as shown below.



- You can connect up to 63 i.LINK devices. However, the maximum number of cables in any serial route is 16.



- Do not connect i.LINK devices in a way that creates a loop.



- Connecting non-compatible devices, such as PCs or PC peripherals, may result in malfunctions.

Completing i.LINK Setup

Before you can use an i.LINK device with the DTV, you need to register the device as follows.

1 After you've connected the cables (as described on page 26), first turn on the DTV, and then turn on the i.LINK device(s). The following screen automatically appears.

To add the i.LINK device, highlight Add and press ⊕.

✍ If you select Cancel, the i.LINK device is set up as "hidden" and it does not appear in the i.LINK Control Panel. To see the device in the i.LINK Control Panel, change the i.LINK Setup option from Hide to Show in the Setup menu (see page 61).

2 If you selected Add in step 1, and the device requires an analog video connection, the following screen appears.

✍ Depending on the i.LINK device you are setting up, this screen may not be displayed. In this case, the device's video input will be displayed as N/A.

3 Move the joystick ↑ and ↓ to highlight the video input (VIDEO 1-4) that connects the i.LINK device to the DTV. If you don't need an analog video connection, select None. Then press ⊕.

A confirmation screen appears, which indicates the i.LINK device name and video input. The device is now available in the i.LINK Control Panel (see page 44).

For more information

- To change the setup of the i.LINK device, use the Setup menu. For details, see page 61.
- For information on using the i.LINK Control Panel, see page 44.
- For general information about i.LINK, see pag e69.

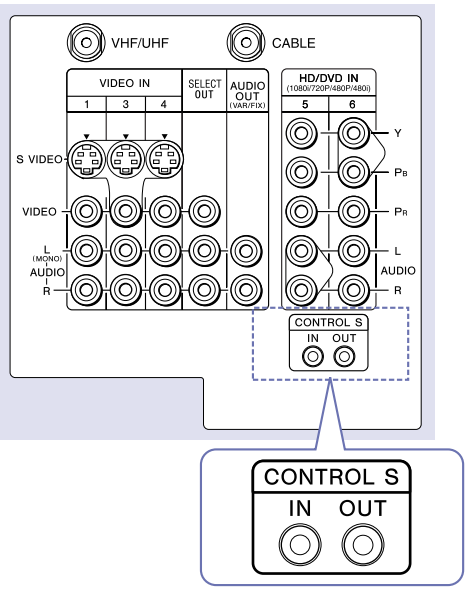
Using the CONTROL S Feature

CONTROL S allows you to control your system and other Sony equipment with one remote control. In addition to allowing you to control multiple devices with one remote control, the CONTROL S feature allows you to always point your remote control at your DTV, instead of having to point it at the other equipment, which might be hidden or out of direct line of sight.

Use CONTROL S IN to send signals to the DTV.

Use CONTROL S OUT to send signals to connected equipment.

DTV



Setting Up the DTV Automatically

The first time you turn on the DTV, a series of screens guide you through the initial setup of the DTV. During this setup, you are prompted to set the clock and start Auto Program, which searches for and stores a list of analog and digital channels you are receiving for VHF/UHF and CABLE inputs.

The initial setup screens appear only after turning on the DTV the first time, or after selecting Factory Reset in the Setup menu (pag e60).

If you need to set the clock at a later time, press the TIMER button on the remote control (see page 45).

You can also run Auto Program at any time from the Channel Setup menu (see page 54).

Be sure to complete all connections before turning on the DTV the first time.

1 Press POWER to turn on the DTV and display the Welcome screen.

2 Press ⊕ to continue Setup. The set clock screen appears.

3 Move the joystick ↑ and ↓ to set the current day and time (hour, minute, and AM/PM). Press ⊕ or move the joystick → to confirm each setting and move to the next setting. Move the joystick ← to go back to the previous setting.

4 After you've set the clock, move the joystick → to highlight Next and press ⊕ to continue Setup. The Auto Program screen appears.

5 To start Auto Program, press ⊕ to select Auto Program. The DTV automatically creates a channel list of analog and digital channels. (This may take a few minutes.)

6 When the channel list is complete, a Congratulations screen appears.

You can run the demonstration again by selecting Demo from the Setup menu (see pages 60 to 62).

To see a short demonstration of the features of the DTV, press ⊕ to select Demo. A self-running introduction to the features of the DTV begins. To exit the demo at any time, press any button on the remote control (or front panel).

To skip the demo and exit Setup, move the joystick → to highlight Done and press ⊕.

Using the DTV Features

Overview

This chapter describes how to use features of your DTV.

Topic	Page
Using the Program Guide	34
Using the Scrolling Index	35
Using Favorite Channels	36
Using Wide Screen Mode	39
Using Twin View	40
Using the Freeze Function	43
Using the i.LINK Control Panel	44
Using the Timer	45

Using the Program Guide

The Program Guide lets you select digital channels and subchannels and review program information from an on-screen list. Subchannels are additional channels of programming broadcast simultaneously. For example, channel 4 might include six subchannels (4.1, 4.2, 4.3, 4.4, 4.5) that are showing programs at the same time.

✍ Analog channels are not available in the Guide.

1 Press GUIDE.

The Program Guide appears, with the currently selected program showing in the background.

✍ Program information in the Program Guide is provided by the broadcasters. As a result, the Program Guide may sometimes include only the channel number without a program title or description.

2 Move the joystick ↑ and ↓ to highlight the channel you want to watch.The program on that channel appears in the background.

3 To remove the Program Guide and watch the highlighted channel, press ⊕.

To exit the Program Guide without changing the channel

❑ Press EXIT or GUIDE.

The Guide is not available while using any of the multipicture functions, such as Twin View, Freeze, Scrolling Index, or Favorites.

As an alternative to using the Guide you can select subchannels directly using the 0-9 buttons and the · button on the remote control. For example, to select channel 4.1, press 4 + · + 1 and then ENTER.

Using the Scrolling Index

The Scrolling Index lets you select programs from a scrolling index of video pictures.

1 Press INDEX.

The Scrolling Index appears, with the currently selected program in the main (left) window, and four scrolling video pictures in the right.

As each picture on the right scrolls to the live preview window, it changes briefly from a frozen video picture to a live video. The right side continues to scroll through the entire channel list.

2 To change the direction of the scrolling, move the joystick ↑ or ↓.

3 To change the speed of the scrolling, move and hold the joystick ↑ or ↓.

4 To change a frozen video picture to a live video, move the joystick ↑ or ↓ to highlight the picture, then press ⊕.

5 To move the live video (from step 4) from the right to the main (left) window of the Scrolling Index, press ⊕ again.

To exit the Scrolling Index

❑ Press EXIT or INDEX.

Using Favorite Channels

You can store up to 16 of your favorite channels in the Favorite Channels list. You can use the Surf Favorites feature to preview and select channels directly from the list. You can also edit the Favorite Channels list to change the channels that are included in the list.

Adding Favorite Channels

1 Tune to the channel you want to save to the Favorite Channels list and press ADD.

A message appears, indicating that the channel was stored in the Favorite Channels list.

2 To add more channels (to a total of 16), repeat step 1.

If you try to add more than 16 channels to the Favorite Channels list

A message appears, indicating that the Favorite Channels list is full. To change the Favorite Channels list, select Edit (then see "Editing the Favorite Channels List" on page 38). Or to cancel storing the channel, select Cancel.

If you try to add a digital subchannel to the Favorite Channels list

Only the major channel number is saved as a Favorite Channel. For example, if you are watching channel 51.4 and you press ADD, only channel 51 is saved as a Favorite Channel. Then, when you surf to Favorite Channel 51, the DTV tunes to channel 51 or the first available digital subchannel it finds (channel 51.1, 51.2, etc).

Surfing the Favorite Channels List

The letter "C" indicates that the Favorite Channel is a cable channel.

1 Press SURF.

The Surf Favorites screen appears, with the currently selected program in the main (left) window.

2 To see a preview of a program on your Favorite Channels, move the joystick ↑ or ↓ through the Surf Favorites list. A preview of the highlighted channel, when available, appears in the preview window.

✍ Digital channels are displayed as a black box in the preview window.

If more than eight Favorite Channels are set, indicated by scroll arrows (↑ ↓), move the joystick ↑ or ↓ to see the additional Favorite Channels.

3 To remove the Surf Favorites list and watch the highlighted channel, press ⊕.

To exit the Surf Favorites list without changing the channel

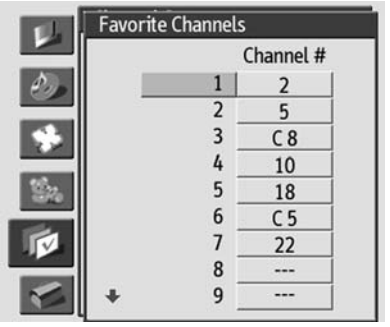
❑ Press EXIT or SURF.

Editing the Favorite Channels List

The letter "C" indicates that the Favorite Channel is a cable channel.

1. Press MENU.
2. Move the joystick to highlight the Channel Setup icon and press ⊕.
3. Move the joystick to highlight Favorite Channels and press ⊕.

   The Favorite Channels list appears.



   If more than nine Favorite Channels are set, move the joystick ↑ or ↓ to see the other Favorite Channels.

4. To select a Favorite (1-16) to edit, move the joystick ↑ or ↓ to highlight the number and press ⊕.
5. Move the joystick ↑ or ↓ to scroll through the channel list. A preview of the highlighted channel, when available, appears in the preview window.

   ✍ Digital channels are displayed as a black box in the preview window.

6. To set the channel to the Favorite Channel list, press ⊕.

To set additional channels (to a total of 16)

❑ Repeat steps 4 to 6.

To clear a Favorite Channel from the list

❑ After step 4, press the RESET button on the remote control.

To exit the Edit Favorites list

❑ Press EXIT.

Using Wide Screen Mode

Wide Screen mode lets you watch 4:3 normal broadcasts in several Wide Screen modes (16:9 aspect ratio).

You can also access the Wide Mode settings in the Screen Mode menu. For details, see page 52.

When you change channels or inputs, the Wide Mode settings revert to Wide Zoom (or the 4:3 Default setting in the Screen Mode menu). To retain the current Wide Mode setting as channels and inputs are changed, set 4:3 Default to Off. For details, see page 52.

- Press WIDE MODE repeatedly to toggle through the following Wide Mode settings.

Wide Zoom

Wide Zoom enlarges the 4:3 picture, while the upper and lower parts of the picture are condensed to fit the 16:9 screen.

Normal

Normal returns the 4:3 picture to its original size.

Full

Full Mode stretches the 4:3 picture horizontally only, to fill the 16:9 screen.

Zoom

Zoom Mode enlarges the 4:3 picture horizontally and vertically to an equal aspect ratio that fills the 16:9 screen. Useful for watching Letterbox movies.

Using Twin View

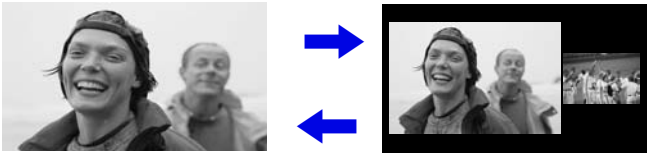
Twin View lets you see two pictures from two sources — from an antenna, VCR, DVD, etc., — on the screen at the same time. (You hear the sound from only one of the sources at a time. You choose which source's sound is selected.) You can change the relative size of each of the pictures.

Displaying Twin Pictures

1 Tune the DTV to a working channel.

2 Press ◑.

A second picture-window appears.



To cancel twin pictures and watch the active picture

❑ Press ◑ or ⊕.

Activating the Picture

With Twin View, the picture highlighted in blue is active. In the active picture, you can:

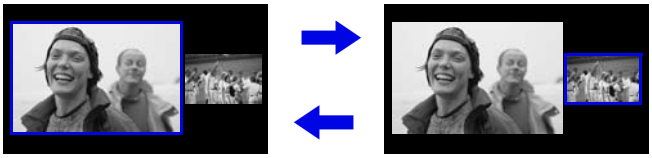
- Change channels.
- Adjust the volume.
- Switch the input sources (to go from UHF/VHF to cable, for example, press ANT or TV/VIDEO on the remote control).
- Change the picture size by moving the joystick ↑ or ↓.

To activate the right picture

- Move the joystick →.

To activate the left picture

- Move the joystick ←.



Factors affecting Twin View

- If you use a cable box to view all channels, the same channel appears in both windows of Twin View because the cable box unscrambles only one channel at a time.
- If you use a cable box, you can view the cable box output in one Twin View window and view a signal from a different source (such as a VCR or DVD player) in the second window.
- Digital channels and equipment connected to VIDEO 5 or VIDEO 6 inputs display in the left Twin View window, but not the right.
- If you are viewing a 4:3 source and a 16:9 enhanced source (such as a DVD) side by side in Twin View, the 4:3 source will appear larger.
- Twin View is not available while viewing i.LINK devices.

Changing the Picture Size

The zoom feature lets you vary the relative size of the left and right pictures.

1. Activate the picture whose size you want to change.
2. Move the joystick ↑ to enlarge the picture.
3. Move the joystick ↓ to make the picture smaller.

When you adjust the twin screen sizes, the DTV memorizes the change. The next time you use the Twin View function, the memorized sizes appear.

Using the Freeze Function

The FREEZE button allows you to temporarily capture a program's picture. You can use this feature to write down information such as phone numbers, recipes, etc.

✍ The Freeze feature is not available while using Twin View.

1. When the program information you want to capture is displayed, press the FREEZE button.
2. The DTV switches to Twin View mode and displays the "frozen" picture on the right, while the current program continues on the left.

3. To cancel and return to normal viewing, press the FREEZE or EXIT button.

Using the i.LINK Control Panel

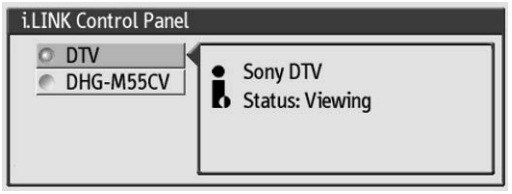
The i.LINK Control Panel lets you see a list of i.LINK devices that are connected to and communicating with the DTV.

✍ At the time this DTV went to market, the Sony digital cable set-top box (DHG-M55CV) is the only i.LINK device that is verified to be compatible with this DTV.

You can also access the i.LINK Control Panel using the the i button on the DTV's front panel. For details, see page 10.

1 To display the i.LINK Control Panel, press the i button.

The i.LINK Control Panel appears, which displays a list of i.LINK devices that are set to Show in the i.LINK Setup menu (pag e61).



✍ If the i.LINK device is not listed in the i.LINK Control Panel, you need to change the i.LINK Setup option from Hide to Show (see page 61).

DTV is always the first device listed. If other i.LINK devices are connected, they are listed according to their manufacturer's model name. If there are duplicate models connected, they are also designated a number (1,2,3, etc.). If a device is unknown, it is listed as "Device."

If no i.LINK devices are connected to the DTV, the message "There are no i.LINK devices available" is displayed.

2 To check the status of an i.LINK device, move the joystick ↑ or ↓ to highlight the device name. The background continues to display the video of the device that is selected.

3 To select a new i.LINK device and change the background video to that device, press ⊕.

4 To exit the i.LINK Control Panel and return to normal viewing, press the i button (or EXIT).

Using the Timer

You can use the Timer to program the DTV to turn on and off and tune to a specific channel at two scheduled viewing times.

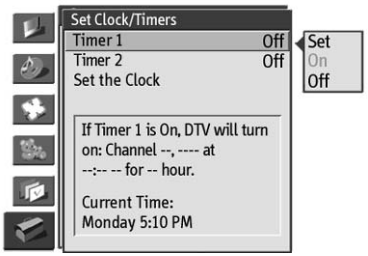
The first time you turned on the DTV, a setup screen prompted you to set the clock (see "Setting Up the DTV Automatically" on page 31). If you didn't set the clock during this initial setup, you need to set it before you can use the Timer (see page 46).

Setting the Timer

You can also access the Timer through the Setup menu. For details, see page 60.

1 Press TIMER.

The Set Clock/Timers screen appears, with the current timer settings shown.



2 To set the Timer, move the joystick ↑ or ↓ to highlight Timer 1 or Timer 2, then press ⊕.

✍ The clock must be set before you can set either of the Timers. If the clock is not set, Timer 1 and Timer 2 cannot be selected. To set the clock, see "Setting the Clock" on pag e46.

3 Move the joystick ↑ or ↓ to highlight one of the following options, then press ⊕.

Set	Select to set or change the timer settings for the selected Timer (Timer 1 or Timer 2).
On	Select to turn on the timer settings for the selected Timer (Timer 1 or Timer 2).
Off	Select to turn off the timer settings for the selected Timer (Timer 1 or Timer 2).

4 If you selected Set in step 3, the setup screen for the selected Timer (Timer 1 or Timer 2) appears.

5 Move the joystick ↑ and ↓ to set the day(s), time (hour, minute, AM/PM), duration, and channel number. Press ⊕ or → to confirm each setting and move to the next setting. Press ← to go back to the previous setting.

6 After you've set the channel number, press ⊕ to save the Timer settings. The settings are displayed in the Timer screen and the Timer is set to On.

The DTV is now set to turn on, tune to the channel you've set, and then turn off at the times you set for that Timer. The Timer indicator on the front panel indicates the Timer is set.

To turn a Timer setting on or off

❑ Select On or Off in step 3 (page 45).

To change a Timer setting

❑ Set the timer (Timer 1 or Timer 2) again. The old timer setting is overwritten.

To set a second Timer setting

❑ Set the other unset timer (Timer 1 or Timer 2).

Setting the Clock

If you didn't set the clock during the DTV's initial setup (see page 31), you need to set it before you can set either of the Timers.

You can also access the Timer through the Setup menu. For details, see page 60.

1 Press TIMER.

The Timer Setup screen appears (as shown on pag e45).

2 Move the joystick ↑ or ↓ to highlight Set the Clock, then press ⊕.

3 Move the joystick ↑ and ↓ to set the current day and time (hour, minute, and AM/PM). Press ⊕ or move the joystick → to confirm each setting and move to the next setting. Move the joystick ← to go back to the previous setting.

4 When you finish setting the day and time, press ⊕ to save the clock settings.

Using the DTV Menus

Overview

To open and choose a menu

1 Press MENU to display the menu screen.

2 Move the joystick ↑ or ↓ to highlight the icon of the menu you want to select and press ⊕.

3 Move the joystick ↑ or ↓ to scroll through the options.

4 See the specific menu page for instructions on moving through the menu.

The Menu gives you access to the following features:

Menu Icon	Description	Page
	The Video menu allows you to make adjustments to your picture settings, lets you customize the Picture Mode based on the type of program you are viewing, and more.	48
	The Audio menu offers enhanced audio options such as listening to second audio programming (SAP), customizing the Effect of the sound on your DTV, and more.	50
	The Screen Mode menu allows you to make Wide Mode adjustments and make changes to the screen's vertical center and vertical size.	52
	The Channel Setup menu allows you to edit your Favorite Channels list, run the Auto Program function, and more.	54
	The Parental Control menu lets you control the viewing of programs based on their ratings.	56
	The Setup menu provides options for setting up your system, including selecting closed caption modes, setting the Timer, labeling Video inputs, changing the status of i.LINK devices, selecting the language of the on-screen menus, and more.	60

To end a menu session

Press EXIT.

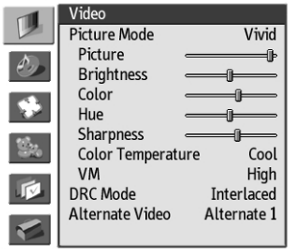
To move from one menu to another

Move the joystick ← to return to the menu icons. Move the joystick ↑ or ↓ to choose the next menu icon and press ⊕ to select it.

Using the Video Menu

To select the Video menu

1. Press MENU.
2. Move the joystick ↑ or ↓ to highlight the Video icon and press ⊕.
3. Move the joystick ↑ or ↓ to scroll through the features.
4. Press ⊕ to select a feature. That feature's adjustment appears.
5. Use the joystick to make the desired adjustments.
6. Press ⊕ to select/set.
7. Press EXIT to exit the menu screen.



To restore the factory default settings for Picture, Brightness, Color, Hue, and Sharpness, Color Temp and VM

❑ Press RESET on the remote control when in the Video menu.

The factory default settings are restored only for the Picture Mode that is currently selected.

Selecting Video Options

To change from one Video Mode to another, use the PIC MODE button on the remote control.

You can customize each Picture Mode (Vivid, Standard, Movie, etc.) by changing the other video menu options (Picture, Brightness, Color, etc).

The Video menu includes the following options.

Option	*Description*	
Picture Mode *Preset picture viewing modes*	Vivid	Select for enhanced picture contrast and sharpness.
	Standard	Recommended for Normal viewing conditions.
	Movie	Select to display a finely detailed picture for low-light environments.
	Game	Select to reduce the visibility of artifacts, which often appear in graphics and animation (such as in a video game). Game can also be used to improve the picture quality on channels with noisy or poor signal reception.
	Pro	Select to display a picture with minimum enhancements.
Picture	Adjust to increase picture contrast and deepen the color or decrease picture contrast and soften the color.	
Brightness	Adjust to brighten or darken the picture.	
Color	Adjust to increase or decrease color intensity.	

Option	Description	
Hue	Adjust to increase or decrease the green tones.	
Sharpness	Adjust to sharpen or soften the picture.	
Color Temperature *White intensity adjustment*	Choose from three color temperatures:	
	Cool	Select to give the white colors a blue tint.
	Neutral	Select to give the white colors a neutral tint.
	Warm	Select to give the white colors a red tint (NTSC-Standard).
VM *Velocity Modulation*	Sharpens picture definition to give every object a sharp, clean edge. Select from High, Low, Medium, Off.	
DRC Mode *Digital Reality Creation*	Creates a high-resolution picture with 4x density, for high quality sources (i.e., DVD player, satellite receiver).	
	Interlaced	Recommended for moving pictures.
	Progressive	Recommended for still images and text.
	CineMotion	Provides an optimized display by automatically detecting film content and applying a reverse 3/2 pulldown process. Moving pictures will appear clearer and more natural-looking.
Alternate Video	Allows you to select from the available video streams for the current program. (For example, a sporting event that broadcasts multiple video streams.) To select an alternate video source, move the joystick ↑ or ↓ to select an alternate video option and press ⊕. (Unavailable when alternate video streams are not broadcast.)	

To change from one DRC Mode to another, use the DRC button on the remote control.

Using the Audio Menu

To select the Audio menu

1. Press MENU.
2. Move the joystick ↑ or ↓ to highlight the Audio icon and press ⊕.
3. Move the joystick ↑ or ↓ to scroll through the options.
4. Press ⊕ to select an option. That option's settings appear.
5. Use the joystick to scroll through the settings.
6. Press ⊕ to select the desired setting.
7. Press EXIT to exit the menu screen.

To restore the factory default settings for Treble, Bass, and Balance

❑ Press RESET on the remote control when in the Audio menu.

Selecting Audio Options

The Audio menu includes the following options:

Option		Description
Treble	Adjust to increase or decrease higher-pitched sounds.	
Bass	Adjust to increase or decrease lower-pitched sounds.	
Balance	Adjust to emphasize left or right speaker balance.	
Steady Sound	On	Select to stabilize the volume.
	Off	Select to turn off Steady Sound.
Effect	TruSurround	Select for surround sound (for stereo programs only).
	Simulated	Adds a surround-like effect to mono programs.
	Off	Normal stereo or mono reception.

To change from one Effect to another, use the ⓓ button on the inside panel of the remote control.

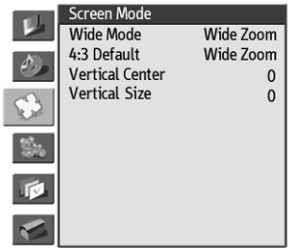
To change from one MTS Mode to another, use the MTS/SAP button on the remote control.

Option	Description	
MTS *Enjoy stereo, bilingual and mono programs*	Stereo	Select for stereo reception when viewing a program broadcast in stereo.
	Auto SAP	Select to automatically switch the DTV to second audio programs when a signal is received. (If no SAP signal is present, the DTV remains in Stereo mode.)
	Mono	Select for mono reception. (Use to reduce noise during weak stereo broadcasts.)
Speaker On/Off	On	Select to turn on the DTV speakers.
	Off	Select to turn off the DTV speakers and listen to the DTV's sound only through your external audio system speakers.
Audio Output *Easy control of volume adjustments*	Variable	The DTV's speakers are turned off, but the volume output from your audio system can still be controlled by the DTV's remote control.
	Fixed	The DTV's speakers are turned off and the volume output of the DTV is fixed. Use your audio receiver's remote control to adjust the volume through your audio system.
Alternate Audio	Allows you to select from the available audio tracks for the current program. (For example, a sporting event that broadcasts multiple commentators.) To select an alternate audio track, move the joystick ↑ or ↓ to select an alternate audio option and press ⊕. (Unavailable when alternate audio tracks are not broadcast.)	

Using the Screen Mode Menu

To select the Screen Mode menu

1. Press MENU.
2. Move the joystick ↑ or ↓ to highlight the Screen Mode icon and press ⊕.
3. Move the joystick ↑ or ↓ to scroll through the features.
4. Press ⊕ to select a feature. That feature's options appear.
5. Use the joystick to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press EXIT to exit the menu screen.



Selecting Screen Mode Options

To change from one Wide Mode to another, use the WIDE MODE button on the remote control.

If 4:3 Default is set to anything but Off, the Wide Mode setting changes only for the current channel. When you change channels (or inputs), Wide Mode is automatically replaced with the 4:3 Default setting. To retain the current Wide Mode setting as channels and inputs are changed, set 4:3 Default to Off.

The Screen Mode menu includes the following options:

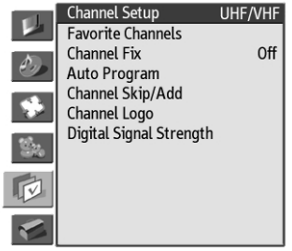
Option	Description	
Wide Mode *Select a Wide Mode to use for 4:3 sources.*	Wide Zoom	Select to enlarge the 4:3 size picture, while the upper and lower parts of the picture are condensed to fit the wide screen.
	Normal	Select to return the 4:3 picture to normal mode.
	Full	Select to enlarge the 4:3 picture horizontally only, to fill the wide screen.
	Zoom	Select to enlarge the 4:3 picture horizontally and vertically to an equal aspect ratio that fills the wide screen.
	(Wide Mode is unavailable while in Twin View.)	
4:3 Default *Select the default Screen Mode to use for 4:3 sources.*	Wide Zoom	Select to enlarge the 4:3 size picture, while the upper and lower parts of the picture are condensed to fit the wide screen.
	Normal	Select to return the 4:3 picture to normal mode.
	Full	Select to enlarge the 4:3 picture horizontally only, to fill the wide screen.
	Zoom	Select to enlarge the 4:3 picture horizontally and vertically to an equal aspect ratio that fills the wide screen.
	Off	Select to continue using the current Wide Mode setting when the channel or input is changed.

Option	Description
Vertical Center	Allows you to move the position of the picture up and down in the window. (Available only in Wide Zoom and Zoom modes.) Move the joystick ↑ or ↓ to choose a position and press ⊕.
Vertical Size	Allows you to adjust the vertical size of the picture. (Available only in Wide Zoom and Zoom modes.) Move the joystick ↑ or ↓ to choose a correction and press ⊕.

Using the Channel Setup Menu

To select the Channel Setup menu

1. Press MENU.
2. Move the joystick ↑ or ↓ to highlight the Channel Setup icon and press ⊕.
3. Move the joystick ↑ or ↓ to scroll through the features.
4. Press ⊕ to select a feature. That feature's options appear.
5. Use the joystick to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press EXIT to exit the menu screen.



Selecting Channel Setup Options

The Channel Setup menu includes the following options:

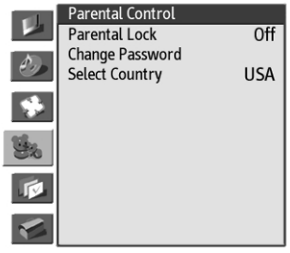
Option	Description	
Favorite Channels	Edit	Select to edit the Favorite Channels list. For details, see "Editing the Favorite Channels List" on page 38.
Channel Fix *Useful when you have a cable box or satellite receiver connected*	Off	Turns off Channel Fix.
	VIDEO 1	Use this setting if you have connected the device to the Audio and Video IN jacks.
	2-6	"Fix" your DTV's channel setting to channels 2-6 and use the cable box, VCR or satellite receiver to change channels. Select one of these settings if you connected the device to the VHF/UHF jack.
	Cable 2-6	Same as 2-6, except you select one of these settings if you connected the device to the CABLE jack.
Auto Program	Automatically programs the DTV for all receivable channels.	
	Find and Overwrite	Select to automatically program the DTV for all receivable channels for the selected input (Cable or VHF/UHF).
	DTV Auto Add	Select to automatically add new digital channels to the digital channel list. (Available only for VHF/UHF input.)

Option	Description
Channel Skip/Add	Allows you to customize the channel list that appears when using the CH+/- buttons on the remote control. The DTV maintains separate channel lists for digital and analog channels.
	Digital — Select to add or skip digital channels.
	Analog — Select to add or skip analog channels.
	1 Move the joystick ↑ or ↓ to scroll through the channels until you find the channel you want to skip/add.
	2 Press ⊕ to select it.
	3 Move the joystick ↑ or ↓ to toggle between Add and Skip. Then press ⊕ to select.
	4 Move the joystick ← to return to the Channel Setup menu, or press EXIT to exit the menus.
Channel Logo	Allows you to assign logos to channel numbers.
	Channel List — Select to display the channel list.
	To assign a logo for a channel number:
	1 Move the joystick ↑ or ↓ to highlight the channel number to which you want to assign a logo. Then press ⊕ to select that channel number.
	2 Move the joystick ←→↑↓ to highlight one of the logos. Then press ⊕ to assign that logo to the selected channel number.
	3 Move the joystick ← to return to the Channel Setup menu, or press EXIT to exit the menus.
Digital Signal Strength	Displays the strength of the terrestrial digital broadcast signal, to help you adjust your antenna to optimize signal reception. When the DTV is receiving a good signal (the signal is locked and there are no errors in the signal), the green light appears next to Signal OK. Adjust the antenna until the green light appears.

Using the Parental Control Menu

The Parental Control menu allows you to set up the DTV to block programs according to their content and rating levels. These ratings are assigned by a federal rating board. Not all programs are rated. Using the Parental Lock blocks programs with a specific rating, but it does not block an entire channel.

To select the Parental Control menu



1. Press MENU.
2. Move the joystick ↑ or ↓ to highlight the Parental Control icon and press ⊕.
3. Use the 0-9 buttons on the remote control to enter your four-digit password.
4. If this is your first time setting a password, confirm your password by entering it again. (The Parental Control menu options appear.)
5. Move the joystick ↑ or ↓ to scroll through the settings.
6. Press ⊕ to select the desired option.
7. Press EXIT to exit the menu screen.

✍ You need your password for any future access into the Parental Control menu. If you lose your password, see "Lost password" on page 71.

Using the Parent Menu

If you are not familiar with the Parental Guideline rating system, you should select Child, Youth, or Young Adult to help simplify the rating selection. To set more restrictive ratings, select Custom.

The Parent menu includes the following options.

Option	Description	
Parental Lock *Turn ratings on/off and select a rating system*	Off	Parental lock is off. No programs are blocked from viewing.
	Child	Maximum ratings permitted are: ❑ US: TV-Y, TV-G, G ❑ Canada: TV-Y, C, G
	Youth	Maximum ratings permitted are: ❑ US: TV-PG, PG ❑ Canada: TV-PG, PG, 8 ans+
	Young Adult	Maximum ratings permitted are: ❑ US: TV-14, PG-13 ❑ Canada: TV-14, 14+, 13 ans+
	Custom	Select to set ratings manually. ❑ US: See page 58 for details. ❑ Canada: See page 59 for details.
Change Password	For changing your password.	
Select Country	USA	Select to use USA ratings (see pag e58).
	Canada	Select to use Canadian ratings (see page 59).

United States: Selecting Custom Rating Options

To ensure maximum blocking capability, the age-based ratings should be blocked.

The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.

If you block unrated TV programs, be aware that the following types of programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

For the United States, the Custom Rating Menu includes the following options. (For Canada, see page 59.)

Option	Description	
Movie Rating	G	All children and General Audience.
	PG	Parental Guidance suggested.
	PG-13	Parental Guidance for children under 13.
	R	Restricted viewing, parental guidance is suggested for children under 17.
	NC-17 and X	No one 17 and under allowed.
TV Rating *Block programs by their rating, content or both*	Age-Based Options	
	TV-Y	All children.
	TV-Y7	Directed to older children.
	TV-G	General Audience.
	TV-PG	Parental Guidance suggested.
	TV-14	Parents Strongly cautioned.
	TV-MA	Mature Audience only.
	Content-Based Options	
	FV	Fantasy Violence.
	D	Suggestive Dialogue.
	L	Strong Language.
	S	Sexual situations.
	V	Violence.
Unrated *Block programs or movies that are broadcast without a rating*	Block	Blocks all programs and movies that are broadcast without a rating.
	Allow	Allows programs and movies that are broadcast without a rating.

Canada: Selecting Custom Rating Options

For Canada, the Custom Rating Menu includes the following options. (For the US, see page 58.)

Option	Description	
English Rating	C	All children.
	C8+	Children 8 years and older.
	G	General programming.
	PG	Parental Guidance.
	14+	Viewers 14 and older.
	18+	Adult programming.
French Rating	G	General programming.
	8 ans+	Not recommended for young children.
	13 ans+	Not recommended for ages under 13.
	16 ans+	Not recommended for ages under 16.
	18 ans+	Programming restricted to adults.
USA TV Rating	See page 58 for details.	

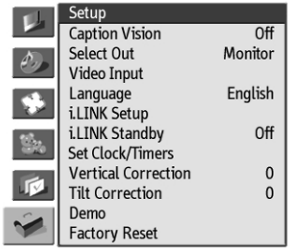
Viewing Blocked Programs

You can view a blocked program by pressing the ENTER button when tuned to a blocked program. Entering the correct password temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the DTV. When the DTV is turned on again, your Parental Controls settings are reactivated.

Using the Setup Menu

To select the Setup menu

1. Press MENU.
2. Move the joystick ↑ or ↓ to highlight the Setup icon and press ⊕.
3. Move the joystick ↑ or ↓ to scroll through the features.
4. Press ⊕ to select a feature. (That feature's options appear.)
5. Move the joystick ↑ or ↓ to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press EXIT to exit the menu screen.



Selecting Setup Options

The Setup Menu includes the following options:

Option	Description	
Caption Vision	Allows you to select from three closed caption modes (for programs that are broadcast with closed caption).	
	CC1, CC2, CC3, CC4	Displays a printed version of the dialog or sound effects of a program. (Should be set to CC1 for most programs.)
	TEXT1, TEXT2, TEXT3, TEXT4	Displays network/station information presented using either half or the whole screen (if available). For closed captioning, set to CC1.
	Info Banner	Displays the program name and the time remaining in the program (if the broadcaster offers this service). Displays when the channel is changed or the DISPLAY button is pressed.
	Off	Turns off Caption Vision.
Select Out	Allows you to select which input to pass through to the equipment connected to the SELECT OUT jacks on the DTV.	
	Monitor	Outputs the picture displayed on the screen.
	TV	Outputs the signal that the TV is tuned to (regardless of the picture displayed on the screen).
	VIDEO 1-4	Outputs the signal input to the TV (regardless of the picture displayed on the screen).

You can also use the Video Input option to assign video inputs to i.LINK devices. When you select that video input, an i.LINK connection is established. Only i.LINK devices that are set to Show (see "i.LINK Setup") and which support video input connection are listed.

For details about using the i.LINK Control Panel, see page 44.

For details about power consumption in standby modes, see "Specifications" on page 72.

Option	Description
Video Input	Allows you to select labels to help you recognize devices connected to the audio/video jacks on the DTV. For example, if you have a DVD player connected to the VIDEO 2 jack, you can select the label DVD for the VIDEO 2 input. To select a label for a video input: 1 Move the joystick ↑ or ↓ to highlight the video input (VIDEO 1-6) that you want to assign a label. Then press ⊕ to select the input. 2 Move the joystick ↑ or ↓ to highlight one of the displayed labels. Then press ⊕ to select it. If you select the label Skip, your DTV skips this connection when you press the TV/VIDEO button. i.LINK devices cannot be assigned to VIDEO 5 or 6.
Language	Select to display all on-screen menus in your language of choice (English, Espanol, Francais).
i.LINK Setup	Select to display a list of i.LINK devices that are connected to the DTV. To change the status of an i.LINK device: 1 Move the joystick ↑ or ↓ to highlight an i.LINK device. Then press ⊕ to select the device. 2 Move the joystick ↑ or ↓ to highlight one of the following options. Then press ⊕ to select it. **Show** — Select to display this device in the i.LINK Control Panel. **Hide** — Select to not display this device in the i.LINK Control Panel. This is for devices that are connected to, but not communicating with, the DTV (or for devices that you don't want to appear in the i.LINK Control Panel). **Delete** — Select for i.LINK devices that you have disconnected from the DTV. To reconnect the device, see page 29.
i.LINK Standby	**On** — Allows the i.LINK signal to pass through to connected i.LINK devices even when the DTV is turned off. Front panel LED is orange. The DTV uses more standby power than when this option set to Off. **Off** — Does not allow the i.LINK signal to pass through to connected i.LINK devices when the DTV is turned off. Front panel LED is red. The DTV uses less standby power than when this option is set to On.

You can also access the Timer using the TIMER button on the remote control.

Both Vertical Correction and Tilt Correction are done while the picture is in Full Mode. However, the adjustments are also reflected in other viewing modes: Wide Zoom, Zoom, Normal, Twin View, etc.

Option	Description
Set Clock/Timers	Select to set the clock and to program your DTV to turn on and off at two scheduled viewing times. For details, see page 45.
Vertical Correction	Allows you to make a vertical correction to the picture within the DTV screen. Move the joystick ↑ or ↓ to choose a correction between +5 and -5 and press ⊕. You can use the horizontal bars at the top and bottom of the screen for reference as you make the adjustment. Normally, vertical correction only needs to be adjusted the first time you turn on the unit and after the unit is moved to a new location.
Tilt Correction	Allows you to correct any tilt of the picture. Move the joystick ↑ or ↓ to choose a correction between +7 and -7 and press ⊕. You can use the horizontal bars at the top and bottom of the screen for reference as you make the adjustment. Normally, tilt correction only needs to be adjusted the first time you turn on the unit and after the unit is moved to a new location.
Demo	Runs a demonstration of the features of the DTV.
Factory Reset	Restores all menu options to their original factory settings. **WARNING**: Factory Reset clears all settings from memory, including channel lists, favorite channels, menu settings, timers, clock, etc.

Other Information

Overview

This chapter includes the following topics:

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Programming the Remote Control	64
Operating Other Components with Your DTV Remote Control	67
About i.LINK	69
Troubleshooting	70
Specifications	72
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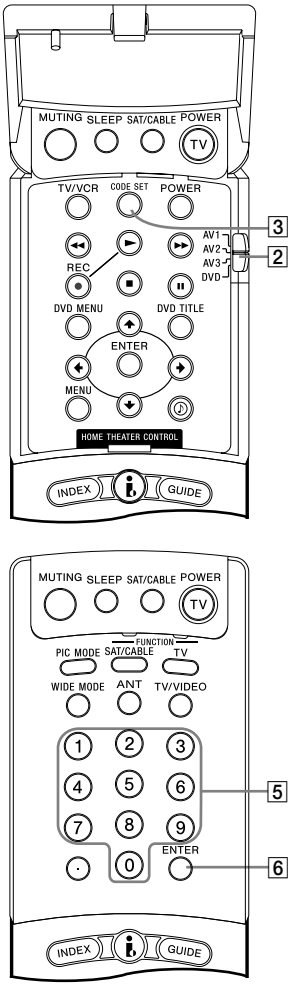
Programming the Remote Control

The remote control is preset to operate Sony brand video equipment.

Sony Equipment	Switch Position on Remote Control	Programmable Code Number
Beta, ED Beta VCRs	AV1	303
8 mm VCR	AV2	302
VHS VCR	AV3	301
DVD Player	DVD	751



If you have video equipment other than Sony brand that you want to control with the DTV's remote control, use the following procedures to program the remote control.

✍ The equipment must have infrared (IR) remote capability in order to be used with the remote control.

1. Check the list of the "Manufacturer's Codes" listed on page 66, and find the three-digit code number for the manufacturer for your equipment. (If more than one code number is listed, start with the number listed first.)
2. Open the lid on the remote control. Then move the slide switch to one of the four positions (AV1, AV2, AV3, DVD).
3. Press CODE SET.

   ✍ You must perform step 4 within 10 seconds of step 3.

4. Close the lid on the remote control and enter the three-digit manufacturer's code number.
5. Press ENTER.
6. To check if the code number works, aim the DTV's remote control at the equipment and press the green POWER button that corresponds with that equipment. If it responds, you are done. If not, try using another code listed for that manufacturer.

Tips

- If more than one code number is listed, try entering them one by one until you come to the correct code for your component.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, you may not be able to operate your component with the Sony remote control. In such cases, use the component's own remote control unit.
- Whenever you remove the batteries to replace them, the code numbers may revert to the factory setting and must be reset.

Manufacturer's Codes

VCRs

Manufacturer	Code
Sony	301
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305,338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/ MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Orion	317
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/ PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314. 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

Laserdisc Players

Manufacturer	Code
Sony	701
Panasonic	704, 710
Pioneer	702

DVD Players

Manufacturer	Code
Sony	751
GE	755
Hitachi	758
JVC	756
Magnavox	757
Mitsubishi	761
Oritron	759
Panasonic	753
Philips	757
Pioneer	752
RCA/ PROSCAN	755
Samsung	758
Toshiba	754
Zenith	760

Cable Boxes

Manufacturer	Code
Sony	230
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Satellite Receivers

Manufacturer	Code
Sony	801
Dish Network	810
Echostar	810
General Electric	802
Hitachi	805
Hughes	804
Mitsubishi	809
Panasonic	803
RCA/ PROSCAN	802, 808
Toshiba	806, 807

Operating Other Components with Your DTV Remote Control

Operating a VCR

Move the slide switch to the position you programmed for the VCR.

To Do This ...	Press
Turn on/off	POWER
Select VCR	TV/VIDEO
Change channels	CH +/-
Record	► and REC simultaneously.
Play	►
Stop	■
Fast forward	►►
Rewind the tape	◄◄
Pause	❚❚ (press again to resume normal playback)
Search the picture forward or backward	►► or ◄◄ during playback (release to resume normal playback)
Change input mode	TV/VCR

Operating a DVD Player

Move the slide switch to the position you programmed for the DVD player.

To Do This ...	Press
Turn on/off	POWER
Select DVD	TV/VIDEO
Play	►
Stop	■
Pause	❚❚ (press again to resume normal playback)
Step through different tracks of an audio disc	►► to step forward or ◄◄ to step backward
Step through different chapters of a video disc	CH+ to step forward or CH- to step backward
Display the DVD menu	DVD MENU
Select tracks directly	0-9 buttons
Display the menu (Setup)	MENU

Operating a Cable Box

To Do This ...	Press
Turn on/off	SAT/CABLE (green POWER button)
Select Cable Box	SAT/CABLE (white FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP

Operating a Satellite Receiver

To Do This ...	Press
Turn on/off	SAT/CABLE (green POWER button)
Select Satellite Receiver	SAT/CABLE (white FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP
Display channel number	DISPLAY
Display satellite guide	GUIDE
Display satellite menu	MENU
Move highlight (cursor)	Move joystick ←→↑↓
Select item	⊕ button

Operating an MDP (Laserdisc Player)

Move the slide switch to the position you programmed for the MDP.

To Do This ...	Press
Turn on/off	POWER
Select MDP	TV/VIDEO
Play	►
Stop	■
Pause	❚❚ (press again to resume normal playback)
Search the picture forward or backward	►► or ◄◄ during playback (release to resume normal playback)
Search a chapter forward or backward	CH +/-

About i.LINK

i.LINK is a digital serial interface for handling digital video, digital audio, and other data in two directions between equipment having an i.LINK jack, and for controlling other equipment.

i.LINK compatible equipment can be connected using a single i.LINK cable. Possible applications are operations and data transactions with various digital AV equipment. When two or more i.LINK compatible devices are connected to the DTV, operations and data transactions are possible not only with the equipment that this unit is connected to, but also with the other devices via the directly connected equipment.

Note, however, that the method of operation sometimes varies according to the characteristics and specifications of the equipment to be connected, and that operations and data transactions are sometimes not possible on some connected equipment.

✍ Before connecting this unit to i.LINK compatible equipment, refer to the instruction manual of the equipment to be connected.

About the Name i.LINK

i.LINK is Sony's term for the IEEE 1394 data transport bus, and is a trademark approved by many corporations. IEEE 1394 is an international standard standardized by the Institute of Electrical Electronic Engineers.

i.LINK as a Repeater

This device functions as a repeater or node, so that the i.LINK specific digital signals provided by one device will be relayed to another device that is connected to the first device. This will occur even when the second device does not have the means to use the repeater digital signals.

When i.LINK devices are connected to this DTV, the maximum bit rate (the speed at which data can be sent or received) is 200 Mbps (megabits per second).

To use this DTV as an i.LINK repeater when the unit is powered off, be sure that the i.LINK Standby option is set to `On`, as described on page 61.

Troubleshooting

Problem	Possible Remedies
No picture (screen not lit), no sound	❑ If your DTV does not turn on, and a red light keeps flashing, your DTV may need service. Call your local Sony Service Center. ❑ Make sure the power cord is plugged in. ❑ Push the power button on the front of the DTV. ❑ Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV. When watching connected equipment, set to VIDEO 1, 2, 3, 4, 5 or 6, as appropriate. ❑ Try another channel (it could be station trouble).
Remote control does not operate	❑ Batteries could be weak. Replace the batteries. ❑ Press TV (FUNCTION) when operating the DTV. ❑ Make sure the DTV's power cord is connected securely to the wall outlet. ❑ Locate the DTV at least 3-4 feet away from fluorescent lights. ❑ Check the orientation of the batteries.
Dark, poor or no picture (screen lit), good sound	❑ Adjust the Picture setting in the Video menu (see page 48). ❑ Adjust the Brightness setting in the Video menu (see page 48). ❑ Check antenna/cable connections.
Good picture, no sound	❑ Press MUTING so that Muting disappears from the screen (see page 4).
Cannot receive upper channels (UHF) when using an antenna	❑ Use Auto Program in the Channel Setup menu to add receivable channels that are not presently in memory (see page 54).
No color	❑ Adjust the Color settings in the Video menu (see page 48).
Only snow and noise appear on the screen	❑ Check the antenna/cable connections. ❑ Try another channel (it could be station trouble). ❑ Press ANT to change the input mode (see page 4).
Picture is displayed, but snow or noise is obvious	❑ Try setting the Picture Mode to Game (see page 48).
Only a black screen appears	❑ Indicates there is no signal for the digital channel you are tuned to.
Dotted lines or stripes	❑ Adjust the antenna. ❑ Move the DTV away from noise sources such as cars, neon signs, or hair-dryers.
DTV is fixed to one channel	❑ Use Auto Program in the Channel Setup menu to add receivable channels that are not presently in memory (see page 54). ❑ Check your Channel Fix settings (see pag e54).
Double images or ghosts	❑ Use a highly directional outdoor antenna or a cable (if the problem is caused by reflections from nearby mountains or tall buildings).
Cannot select menu item	❑ If the item you want to choose appears in gray, it is not available to be selected.
Cannot receive any channels when using cable TV	❑ Use Auto Program in the Channel Setup menu to add receivable channels that are not presently in memory (see page 54). ❑ Check your cable settings.

Problem	Possible Remedies
Cannot gain enough volume when using a cable box	❑ Increase the volume of the cable box using the cable box's remote control. Then press TV (FUNCTION) and adjust the DTV's volume.
Cannot receive channels	❑ Use Auto Program in the Channel Setup menu to add receivable TV channels that are not presently in memory (see page 54).
Unable to select a channel	❑ Use Auto Program in the Channel Setup menu to add receivable TV channels that are not presently in memory (see page 54).
Lost password	❑ In the password screen (see page 56), enter the following master password: 4357. The master password clears your previous password; it cannot be used to temporarily unblock channels.
Cannot change channels with the remote control	❑ Be sure you have not inadvertently switched your DTV from channel 3 or 4 setting if you are using another device to change channels. ❑ If you are using another device to control channels, be sure the "function" button for that device has been pressed. For example, if you are using your satellite receiver to control channels, be sure to press the SAT/CABLE button.
Cannot cycle through the other video equipment connected to the DTV	❑ Be sure the Video Input feature has not been set to Skip (see page 61).
There is a black box on the screen	❑ You have selected a text option in the Setup menu and no text is available. (See page 60 to reset Setup selections.) To turn this feature off, select Off in the Caption Vision option. If you were trying to get closed captioning, select CC1 instead of Text 1-4.
There is no Twin Picture or it is just static	❑ Be sure your twin picture is set to a video source/channel that has a program airing. ❑ You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the TV/VIDEO button.
The right Twin Picture window is just a black box	❑ You can display digital channels in the left Twin View window, but not the right. Pressing ⊕ while the black box is active will exit Twin View and tune to that digital channel.
I get the same program in the window picture as in the main picture	❑ Both may be set to the same channel. Try changing channels in either the main picture or the window picture. ❑ You may be running all your channels through a cable box. The cable box will only unscramble one signal at a time, so you cannot use the Twin View feature. If possible, run a direct cable to your DTV's CABLE input. (This will only work if your cable system provides an unscrambled signal.)
I cannot get anything but TV channels in my second picture	❑ Be sure the Video Input feature has not been set to Skip (see page 61).

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Customer Information Services Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).

Specifications

Picture Tube	FD Trinitron® tube	
Antenna	75 ohm external terminal for VHF/UHF	
Television System	NTSC, American TV Standard, ATSC	
Channel Coverage		
DTV	1 -99	
VHF	2-13	
UHF	14-69	
CATV	1-125	
Power Requirements	120V, 60 Hz	
Inputs/Outputs		
Video (IN)	4 total (1 on front panel)	1 Vp-p, 75 ohms unbalanced, sync negative
S Video (IN)	4	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75 ohms
Component Video Input	2 (Y, P_B, P_R)	Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative; P_B: 0.7 Vp-p, 75 ohms P_R: 0.7 Vp-p, 75 ohms
Audio (IN)	6 total (1 on front panel)	500 mVrms (100% modulation) Impedance: 47 kilohm
Audio (OUT)	1	More than 408 mVrms at the maximum volume setting (Variable) More than 408 mVrms (Fixed) Impedance (output): 2 kilohms
SELECT OUT	1 Video 1 Audio	1 Vp-p, 75 ohms unbalanced, sync negative More than 408 mVrms (100% modulation) Impedance (output): 2 kilohms
Digital Audio Optical Output Dolby Digital/PCM	1	Optical Rectangular (1)
CONTROL S (IN/OUT)	1	
i.LINK S200	2	4-pin S200 i.LINK terminal (2)
Supplied Accessories		
Remote Control	RM-Y185	
AA (R6) Batteries	2 supplied for remote control	
Optional Accessories		
AV Cable	VMC-810/820/830 HG	
Audio Cable	RKC-515HG	
i.LINK Cable	VMC-IL4415 (4-pin to 4-pin, 1.5 meters), VMC-IL4435 (4-pin to 4-pin, 3.5 meters)	
Component Video Cable	VMC-10/30 HG	
TV Stand	SU-34XBR2	
Visible Screen Size	34 in (855.7 mm) picture measured diagonally	
Actual CRT Size	36 in (926.4 mm) picture measured diagonally	
Speaker Output	15 x 2	
Dimensions (W x H x D)	994 x 622 x 591.3 mm (39 3/16 x 24 1/2 x 23 5/16 in)	
Mass	93 kg (206 lbs)	
Power Consumption		
In Use	330 W	
In Standby	2.5 W	
In i.LINK Standby	34 W	

Design and specifications are subject to change without notice.

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Self Diagnosis Supported model

SERVICE MANUAL HA3 CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KD-34XBR2	*RM-Y185*	*US*	*SCC-S57A-A*

SUPPLEMENT - 1

SUBJECT: B BOARD, Q-BOX ASSEMBLY P/N CORRECTION;
IC001 P/N CORRECTION

Correct the service manual as shown.
File this Supplement with the service manual.

TRINITRON® COLOR TELEVISION

SONY®

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Sony Technology Center
Technical Services
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☛ : Corrected Item

Section 13: Exploded Views

13-2. Chassis (Page 118)

INCORRECT			CORRECT		
REF. NO.	**PART NO.**	**DESCRIPTION**	**REF. NO.**	**PART NO.**	**DESCRIPTION**
30	A-1136-203-A	B BOARD, COMPLETE	☛ 30	A-1136-203-A	B BOARD, COMPLETE (S/N's up to and including 8011844)
			☛ 30	A-1136-203-B	B BOARD, COMPLETE (S/N's 8011845 and higher)
31	T-9986-097-0	Q-BOX ASSEMBLY (includes QM and QI boards)	☛ 31	T-9986-079-0	Q-BOX ASSEMBLY (includes QM and QI boards) (S/N's up to and including 8011844)
			☛ 31	T-9986-093-9	Q BOX ASSEMBLY (includes QM and QI boards) (S/N's 8011845 and higher)

Section 14: Electrical Parts List (Page 120)

INCORRECT			CORRECT		
REF. NO.	**PART NO.**	**DESCRIPTION**	**REF. NO.**	**PART NO.**	**DESCRIPTION**
	A-1136-203-A	B BOARD, COMPLETE	☛	A-1136-203-A	B BOARD, COMPLETE (S/N's up to and including 8011844)
			☛	A-1136-203-B	B BOARD, COMPLETE (S/N's 8011845 and higher)

Section 14: Electrical Parts List (Page 123)

INCORRECT			CORRECT		
REF. NO.	**PART NO.**	**DESCRIPTION**	**REF. NO.**	**PART NO.**	**DESCRIPTION**
IC001	6-800-670-01	IC M306V2ME-154FP	☛ IC001	6-801-826-01	IC M306V2ME-155FP (S/N's up to and including 8011844)
			☛ IC001	6-801-856-01	IC M306V2ME-156FP (S/N's 8011845 and higher)

Section 14: Electrical Parts List (Page 151, 162)

INCORRECT			CORRECT		
REF. NO.	**PART NO.**	**DESCRIPTION**	**REF. NO.**	**PART NO.**	**DESCRIPTION**
	T-9986-097-0	Q-BOX ASSEMBLY	☛	T-9986-079-0	Q-BOX ASSEMBLY (S/N's up to and including 8011844)
			☛	T-9986-093-9	Q BOX ASSEMBLY (S/N's 8011845 and higher)